

# WESTERN INDUSTRY



• Pineapple canning in Hawaii. Historic Ginaca trimming and coring machine now saves even more of the fruit. (Details on page 5)

***In this issue: Pacific Coast Has Fastest Growth in Labor Force; Foremen Mostly Just Pawns for Both Sides; Utah Process for Treating Coal Reaches Commercial Stage; Gear Hobbing Hints for Western Plants; Regularity of Ore Feeding Cuts Costs for Arizona Mine***

**Thirty-Five Cents**

VOLUME XII

NUMBER 2

**February, 1947**

# VICTOR



modern gas welding and flame cutting equipment  
beyond a doubt...it costs less to own and operate

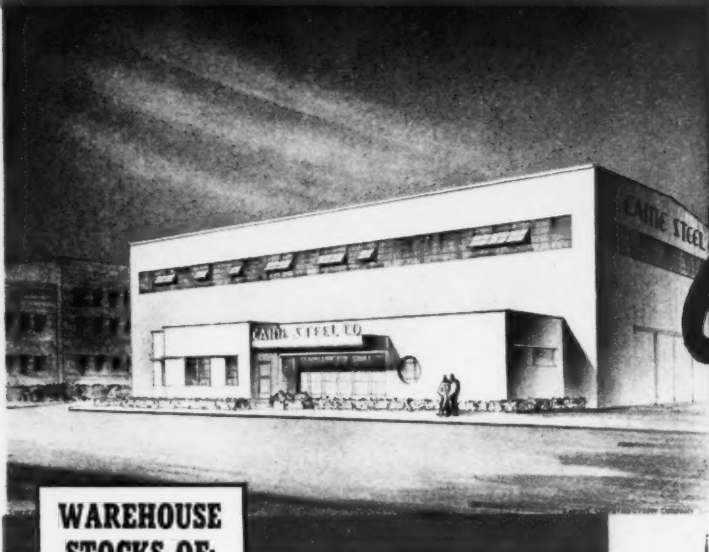
**victor equipment company**  
san francisco • los angeles

victor distributors and repair stations in all major cities from coast to coast

# 2 MORE REASONS

WHY YOU SHOULD

*Raise Caine*  
FOR STEEL!



## WAREHOUSE STOCKS OF:

SHEET STEEL  
HOT ROLLED,  
COLD ROLLED,  
GALVANIZED,  
LONG TERNES,  
VITREOUS  
ENAMELING,  
UNIFORM BLUE.

STRIP STEEL  
HOT ROLLED  
COLD ROLLED

COLD ROLLED  
FLAT WIRE

MILD STEEL  
BARS, BANDS,  
AND PLATES

HOT ROLLED  
STRUCTURAL  
SHAPES

**A NEW PLANT** at Emeryville,  
California—serving the Bay  
Area.

**ADDED FACILITIES** at the Los  
Angeles plant—serving South-  
ern California.



Caine Steel Company of California has built a new plant at Emeryville, California, adding new equipment and 70,000 feet of floor space. In Los Angeles, the facilities are almost doubled. Both of these expansions reflect faith in the industrial growth of California and the West. More are planned. All to increase Caine's service to you and to offer greater stocks of more types of steel. These new facilities at Emeryville and Los Angeles are just two more reasons why you should "Raise Caine for Steel."

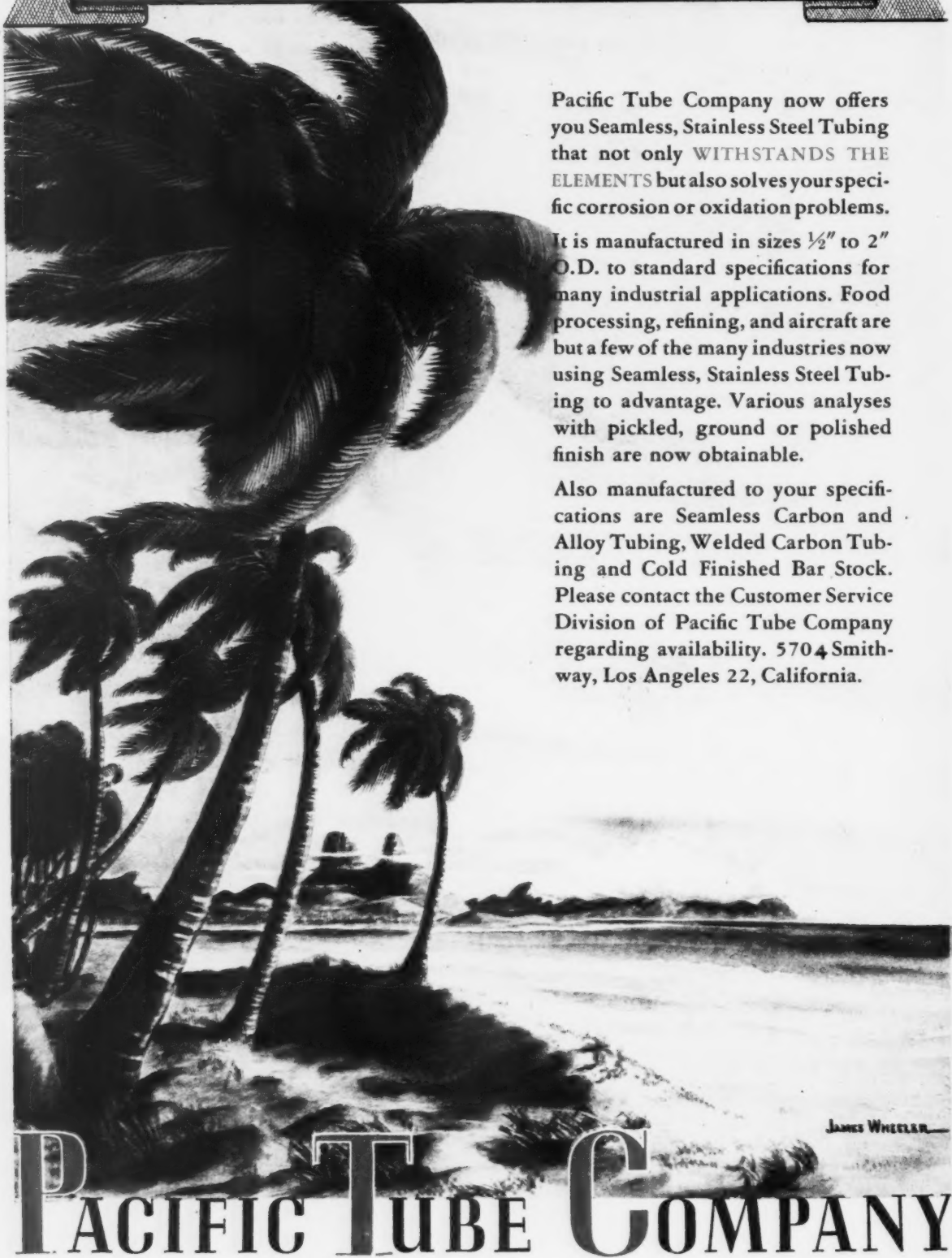
*Raise Caine*  FOR STEEL

**CAINE STEEL CO. of CALIF.**

**LOS ANGELES 11**  
2451 E. 23rd St. • KI. 1211  
**OAKLAND 8**  
3110 Adeline St. • HU. 0900

**CHICAGO ST. LOUIS MINNEAPOLIS OAKLAND LOS ANGELES**

## WITHSTANDS THE ELEMENTS



Pacific Tube Company now offers you Seamless, Stainless Steel Tubing that not only WITHSTANDS THE ELEMENTS but also solves your specific corrosion or oxidation problems.

It is manufactured in sizes  $\frac{1}{2}$ " to 2" O.D. to standard specifications for many industrial applications. Food processing, refining, and aircraft are but a few of the many industries now using Seamless, Stainless Steel Tubing to advantage. Various analyses with pickled, ground or polished finish are now obtainable.

Also manufactured to your specifications are Seamless Carbon and Alloy Tubing, Welded Carbon Tubing and Cold Finished Bar Stock. Please contact the Customer Service Division of Pacific Tube Company regarding availability. 5704 Smithway, Los Angeles 22, California.

JAMES WHEELER

# PACIFIC TUBE COMPANY

HOVEY ASSOCIATES • Advertising • 6411 Hollywood Blvd. • Los Angeles 28, Calif.

WESTERN INDUSTRY—February, 1947



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# This Month in WESTERN INDUSTRY

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FEBRUARY, 1947

NO. 2

## Editor

A. C. PRENDERGAST

## Associate Editors

D. F. Stevens  
Arnold Kruckman

## Editorial Assistant

E. F. Thomas



## Correspondents

Sterling Gleason  
1010 Magnolia Avenue  
Los Angeles 6, Calif.

Henry W. Hough  
1151 Humboldt Street  
Denver 6, Colo.

O. N. Malmquist  
c/o Salt Lake Tribune  
Salt Lake City 1, Utah

## Northwest Office

D. F. Stevens  
2611 Franklin Avenue  
Seattle 2, Wash.  
MInor 0910

## Washington Office

Arnold Kruckman  
1120 Vermont Avenue, N.W.  
Washington 5, D.C.  
Telephone DIstrict 8822



## Advertising Offices

### NEW YORK OFFICE

Ralph E. Dorland, District Manager  
2225 Coles Ave., Scotch Plains, N.J.  
Telephone FAirwood 2-8112

### CHICAGO OFFICE

A. C. Petersen, District Manager  
5833 S. Spaulding Ave., Chicago 29  
Telephone PROspect 1685

### SAN FRANCISCO OFFICE

Harry W. Bucknell, District Manager  
503 Market St., San Francisco 5, Calif.  
Telephone YUkon 6-1537

### LOS ANGELES OFFICE

J. E. Badgley, District Manager  
3835 Wilshire Blvd., Los Angeles 5  
Telephone FAirfax 2301

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Arthur F. King . . . . . President  
Donald F. Forster . Exec. V.-Pres.  
L. P. Vrettos . . . . . Treasurer  
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Ralph P. Dillon . Circulation Mgr.  
R. C. Williams . Production Mgr.

Please address all communications  
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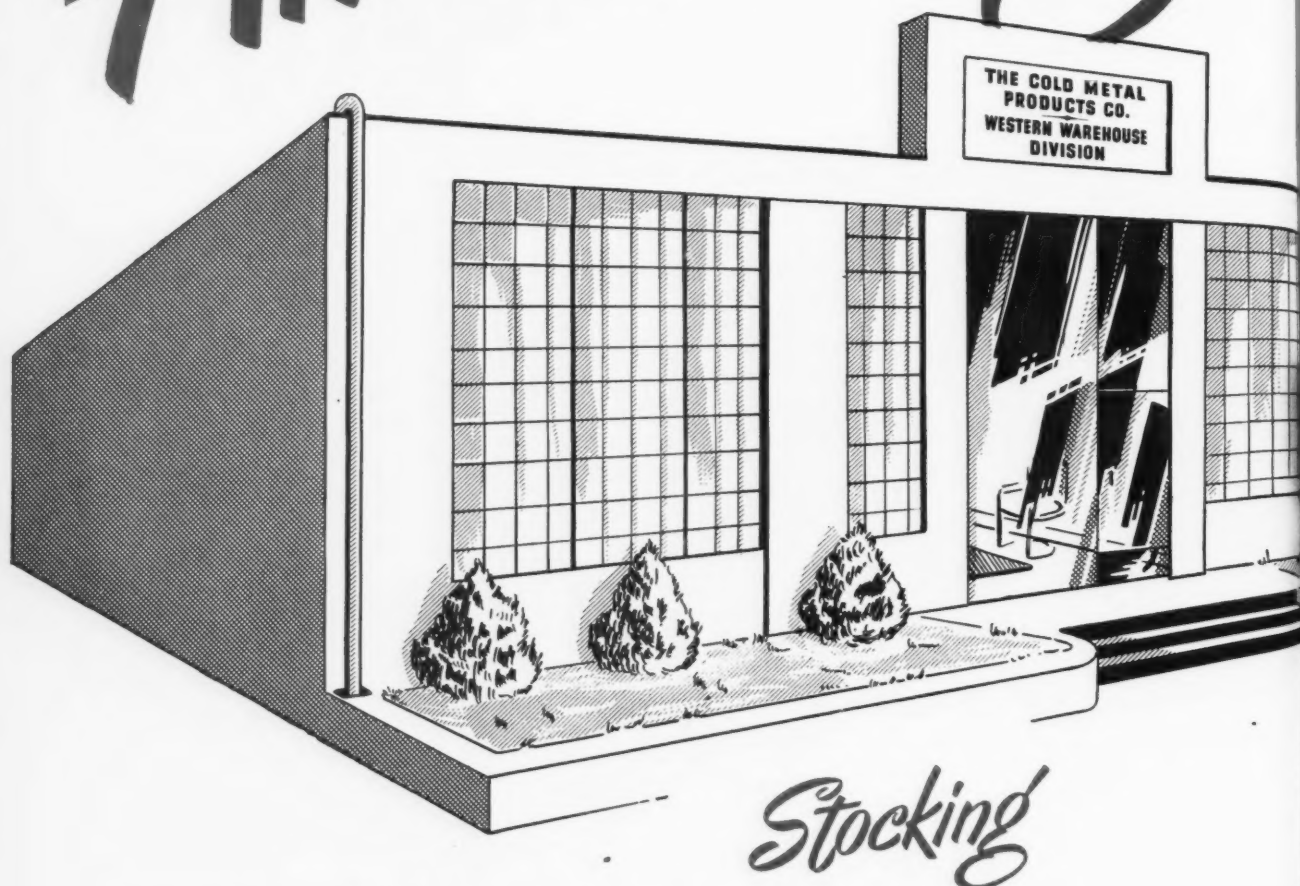
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## Front Cover

Hawaii is the center of the world's canned pineapple production, and the key to volume output is the famous Ginaca machine, which cuts a cylinder of fruit, trims the ends, punches out the pithy core, scrapes edible pineapple off the shells. A new attachment recovers much more pineapple from the severed ends. Photo by Hawaiian Pineapple Company, of machine at its Honolulu plant.

# Announcing



## FAMOUS CMP PRECISION COLD ROLLED STEEL

For many years The Cold Metal Products Company, Youngstown, Ohio, has been a leading steel producer of specialty light gauge strip products. Our function in the industry has been the production of "tailored" steel designed for specific purposes, as opposed to "ready made" tonnage items. In general, we have limited our output to those requirements

where unusually close tolerances, exceptionally uniform physical characteristics, special finishes, or very thin gauges are desired. To service the West Coast demand for such specialties in low carbon, spring steel, stainless, and alloy flat-rolled products, we intend to stock at our new warehouse, those particular items for which there is a need in this area.



### PRECISION COLD ROLLED STAINLESS ALLOY AND CARBON GRADES

Fabrication economies with CMP Thinsteel start with unvarying coil-after-coil dimensional accuracy, physical properties, chemistry and quality finish. Your rigid specifications can be made in gauges thin as .001"

#### EXTRA LONG COILS

... less downtime

#### EXTREMELY CLOSE TOLERANCES

... more parts per ton

#### WIDE RANGE OF PHYSICALS AND ANALYSES

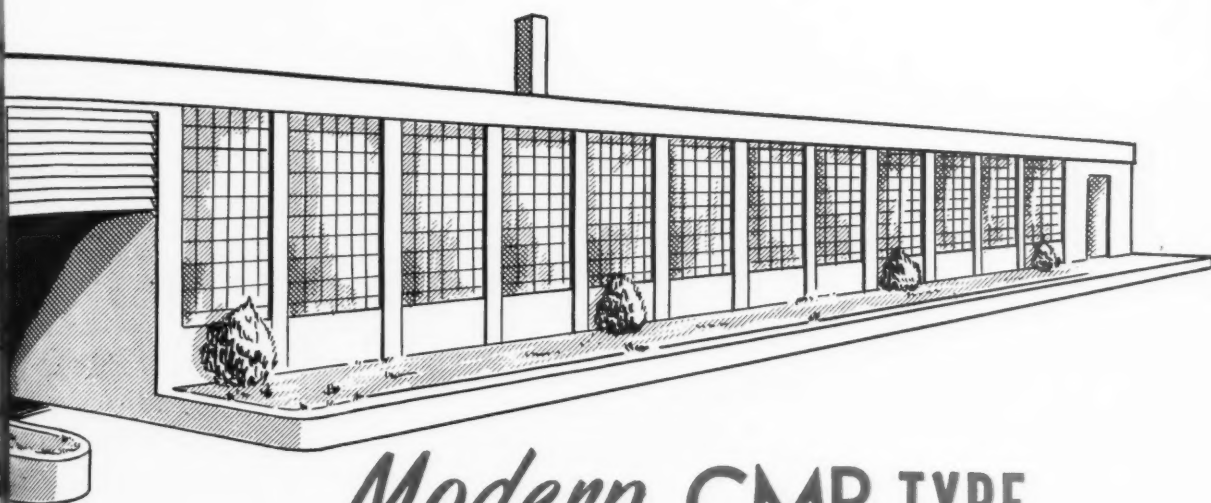
... tailored to your job

#### GAUGES THIN AS .001"

... strength with lightness



# A NEW SPECIALTY STEEL SERVICE PLANT



## *Modern* CMP TYPE SLITTING, CUTTING *and* PROCESSING FACILITIES

All of our slitting, shearing and cutting to length equipment is not yet installed and will not be available for several months. We are beginning operations immediately, however, with the limited slitting equipment and steel stocks available, believing that our products are needed now and that our customers will understand the handi-

caps under which we will operate for the immediate future. Steel processing equipment will be added and steel inventory built up as fast as possible. If you will tell us the items you regularly use, you will help US build the type of inventory which will help YOU. We invite your inquiries and look forward to serving you.

# THINSTEEL



**THE COLD METAL PRODUCTS CO.**  
**WESTERN WAREHOUSE DIVISION**  
6600 MCKINLEY AVE. LOS ANGELES

# Why there are so many **REVERE METALS**

**T**HERE are so many Revere Metals because no one metal can possibly fill all requirements. For high electrical and heat conductivity, for example, the coppers are supreme, but where heat conductivity *plus* extra strength is required, as in condensers and heat exchangers, alloys such as cupro-nickel or Admiralty metal may be required. Special corrosive conditions likewise may affect the choice of metal. When weight is a factor, as in anything that must be moved by mechanical or manpower, there are Revere aluminum and magnesium alloys. If fabrication costs are an important element, copper in one of its several types will be selected for some products, free-cutting brass rod for screw machine work, brass sheet and strip for severe forming operations, Herculoy for the corrosion resistance of copper with strength of mild steel plus ready weldability. Seldom, however, is there only one factor to be considered in selecting a Revere Metal; usually there are several, and striking the correct balance may not be easy. In such cases, Revere is glad to offer the cooperation of its Technical Advisory Service.

Revere Metals are offered in the form of mill products, as follows: *Copper and Copper Alloys:* Sheet and Plates, Roll and Strip, Rod and Bar, Tube and Pipe, Extruded Shapes, Forgings. *Aluminum Alloys:* Tube, Extruded Shapes, Forgings. *Magnesium Alloys:* Sheet and Plate, Rod and Bar, Tube, Extruded Shapes, Forgings. *Steel:* Electric Welded Steel Tube.

## **REVERE**

**COPPER AND BRASS INCORPORATED**

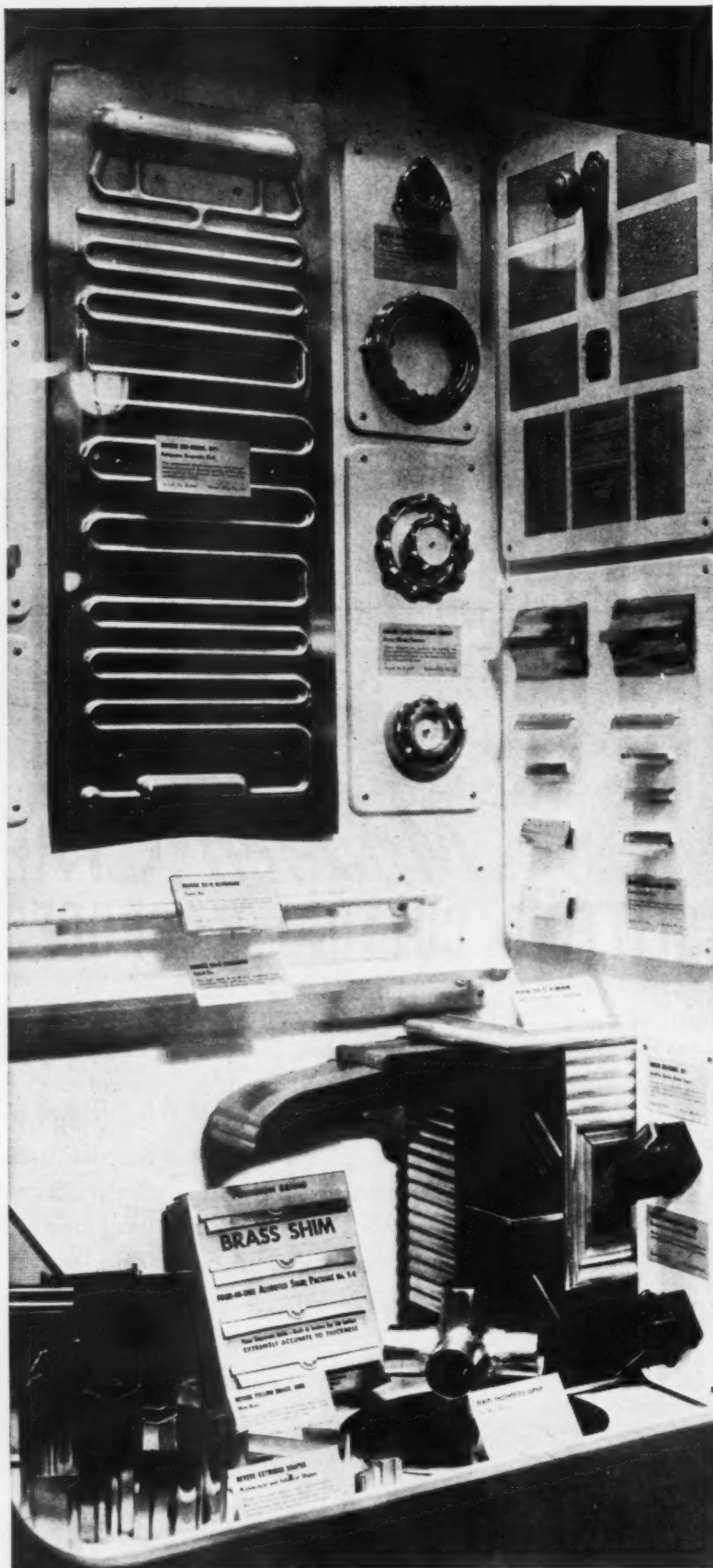
*Founded by Paul Revere in 1801*

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere.

Pacific Coast District Sales Offices in San Francisco, Seattle, Los Angeles

Listen to *Exploring the Unknown* on the Mutual Network every Sunday evening, 6 to 6:30 p.m., PST.



# CONFIDENCE . . . how much is it worth?



**I**N 1841, two years before the first telegraph line was installed in this country, and when there were but 27 states in the Union, John August Roebling was inspired with the idea of making a new kind of rope of unheard of strength and flexibility. His confidence in his idea caused him to risk everything he had on the development of his new rope.

How much is his confidence worth to Industry today, which couldn't turn a wheel without the modern wire rope?

Today, the John A. Roebling's Sons Company invests much time, effort and money in the development of improved products to keep alive the confidence of its many customers.

Roebling values this confidence as its greatest asset. That's why it offers you the greatest value for every dollar you invest . . . in any Roebling product.

## HOW TO SAVE WIRE ROPE DOLLARS

Wire rope is a machine of many parts and, like any machine, even the finest of wire ropes can be destroyed quickly through faulty installation or improper maintenance. To insure against this possibility, Roebling established its Field Engineering Service.

Every Roebling Field Engineer has a thorough knowledge of wire rope . . . its types, its

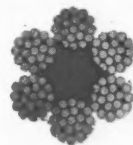
uses, its features and limitations. This knowledge plus the experience he gains in his daily contacts can be a great asset to you . . . helping you to solve those tough wire rope problems . . . giving you more service for each wire rope dollar.

Get to know your Roebling Field Engineer. Call him at your nearby Roebling Branch Office.

## JOHN A. ROEBLING'S SONS COMPANY OF CALIFORNIA

San Francisco • Los Angeles • Seattle • Portland

## FOR EXAMPLE — "BLUE CENTER" STEEL WIRE ROPE



Roebling entrusts your confidence in Roebling and Roebling products to the performance of its "Blue Center" Steel Wire Rope. It is the best rope Roebling knows how to make. It is available as preformed or non-preformed, in a complete range of sizes and constructions to meet a great variety of operating conditions. Its uses are almost unlimited and its performance is consistently economical.

Manufacturers of Wire Rope and Strand • Fittings • Slings • Screen, Hardware and Industrial Wire Cloth • Aerial Wire Rope Systems • Hard, Annealed or Tempered High and Low Carbon Fine and Specialty Wire, Flat Wire, Cold Rolled Strip and Cold Rolled Spring Steel • Ski Lifts • Electrical Wire and Cable • Suspension Bridges and Cables • Aircord, Aircord Terminals and Air Controls • Lawn Mowers

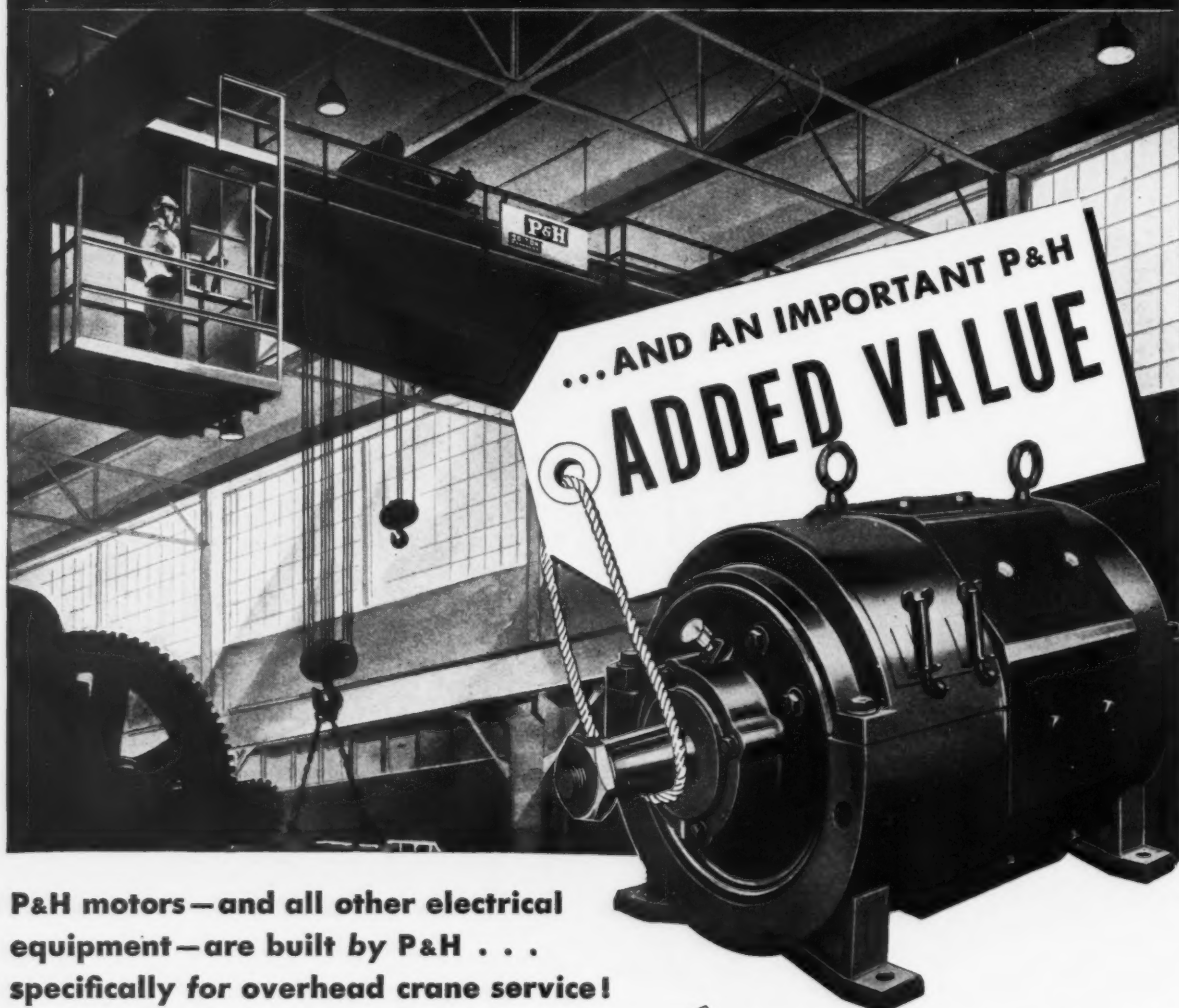
# ROEBLING

A CENTURY OF CONFIDENCE





# P&H ELECTRICAL EQUIPMENT . . . HEART OF CRANE DEPENDABILITY



**P&H motors—and all other electrical equipment—are built by P&H . . . specifically for overhead crane service!**

The reason why P&H motors are so outstanding is because they incorporate over 60 years of crane motor building.

These rugged P&H motors are specifically designed and built (not adapted) to fully withstand the severities of crane service—to longer endure the rapid accelerations, frequent reversals and numerous shock loads and with far less maintenance.

Following are but a few of the added values in P&H's type "CR" direct current motors:

## **FREE ENTERPRISE MEANS:**

*Better products - for more people - at lower cost*



Extra-large diameter shafts with the duplicate ball bearing equipment at both ends.

Welded rolled steel, split-type frames for ease of maintenance.

Spider mounting makes removal of armature winding easy.

Liberal commutator design with full interpole construction, provides perfect commutation under all load conditions.

# P&H

**ELECTRIC  
OVERHEAD CRANES**

4604 W. National Ave.  
Milwaukee 14, Wisconsin

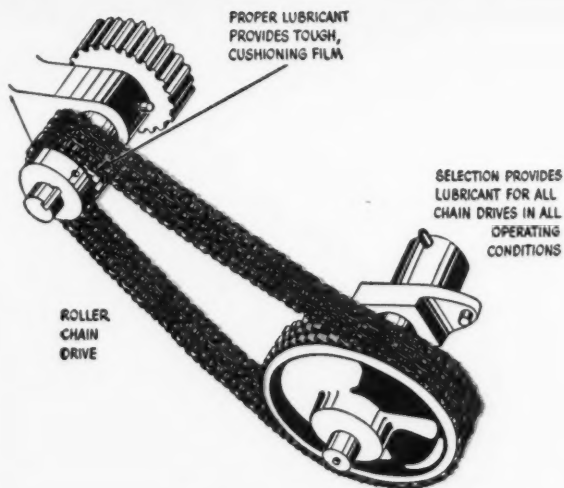
## HARNISCHFEGER

CORPORATION

ELECTRIC CRANES • EXCAVATORS • ARC WELDERS
 HOISTS • WELDING ELECTRODES • MOTORS



# STANDARD ENGINEERS NOTEBOOK



## Correct lubricant reduces chain drive wear

Selection of the proper Calol lubricant for any type chain drive will materially reduce wear even under the most adverse conditions.

On a worm or exposed roller and block chain, Calol Pinion Grease—0 is recommended for high operating temperature, Calol Roller Oil—X for medium and Calol Journal Oil—135 for low. For enclosed roller or block chains, use Calol Journal Oil—165, —135 and —35 respectively.

For chains exposed to pitch, resinous materials, etc., special Calol Drier Chain Oil is recommended.

Recommendations for silent chain drives are as follows: Worn, exposed chains: Calol Roller Oil—X, high temperature; Calol Journal Oil—135, medium temperature; Calol Journal Oil—35, low temperature. New, exposed chains or oil-bath-lubricated encased chains: Calol Journal Oil—135, —35 and —25. Splash-lubricated, encased chains: Calol Journal Oil—35, —25 and —14.

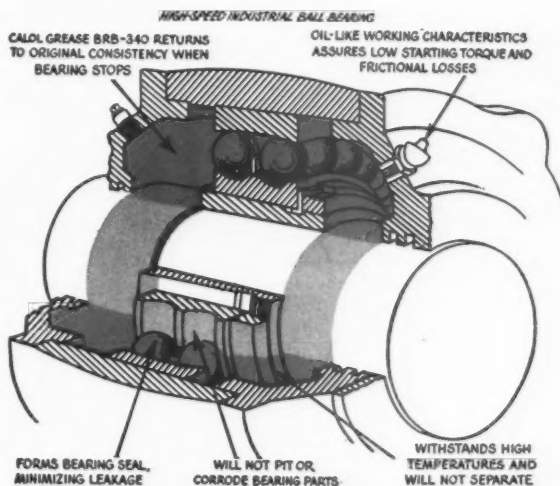
Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your local Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

## New Calol Grease softens and resets

Where anti-friction bearings operate in severe conditions of temperature and speed, newly developed Calol Grease BRB-340 allows easy starting and reduces running friction to a minimum. At high shear rates, its apparent viscosity approaches that of its oil component. However, undue leakage from bearings is prevented by the peculiar ability of Calol Grease BRB-340 to reset, which causes the excess grease, swept aside by balls and rollers, to form a partial seal.

Calol Grease BRB-340 is soft, smooth and has a fine fibrous texture. It is milled by a special process that eliminates bleeding although it contains an unusual amount of oil stock.

When undergoing severe tests, Calol Grease BRB-340 showed no separation in a bearing operating 10,000 RPM at 200° F. for 528 hours. At the end of the test the bearing was in good condition.



FOR EVERY NEED A **STANDARD OF CALIFORNIA** JOB-PROVED PRODUCT

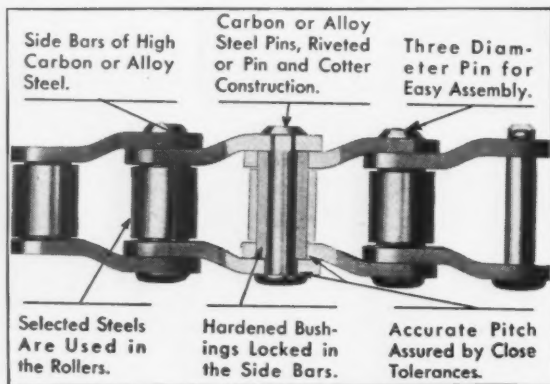
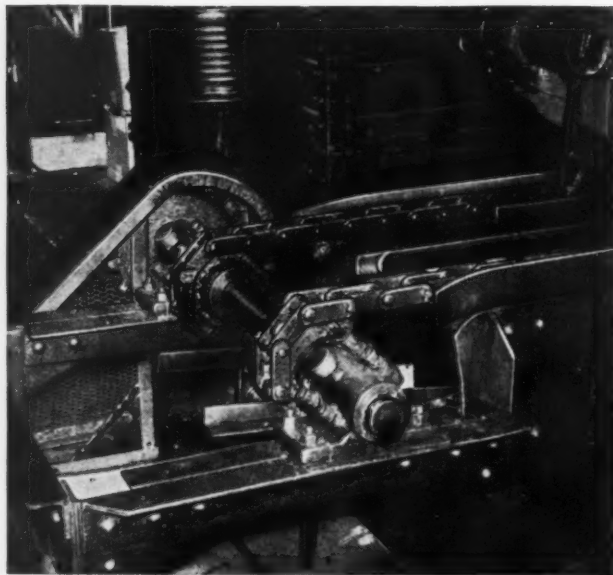
**For correctly engineered drives . . .**

**call the Rex man!**



① **FOR PLANT DRIVES** that will stand up under the most exacting requirements . . . call the Rex Man. He's a power transmission expert who will help you select and properly engineer your drives.

② **WHEN THE REX MAN** selects it, it's the right drive for the job. Here, for example, he helped specify a drive for an engine conveyor in an automobile plant. After a thorough study of the problem, he recommended the correct selection . . . Rex Chabelco for the drive and Rex Durobar for the conveyor . . . a combination that has given excellent service under the heavy loads and severe shocks encountered.



③ **AS CONSTANT, UNINTERRUPTED PRODUCTION** is a vital factor in automotive plants, the Rex Man specified Rex Chabelco for this drive. Rex Chabelco has many built-in design features which make it outstanding for heavy-duty service. Each part is built to exacting specifications as shown in the cross-section at the left. To be sure of maximum service from your drives, call the Rex Man or write direct to Chain Belt Company, 1723 West Bruce Street, Milwaukee 4, Wisconsin.

**REX CHAIN BELTS**  
CHAIN BELT COMPANY of Milwaukee

**1723 WEST BRUCE STREET**

## He gets the **FATTEST** envelope

YOUR PAYMASTER never sees him . . . he never signs the payroll . . . but Inadequate Wiring, the industrial jinx, draws big money.

Week in and week out, overtaxed, overextended, obsolete wiring can tax plant efficiency 25 to 50 percent without detection until a major tie-up occurs.\*

To remove this costly imposter from your payroll, call in your plant power engineer, your consulting engineer, electrical contractor or utility power salesman. These men can find his finger prints anywhere in the plant.

47435

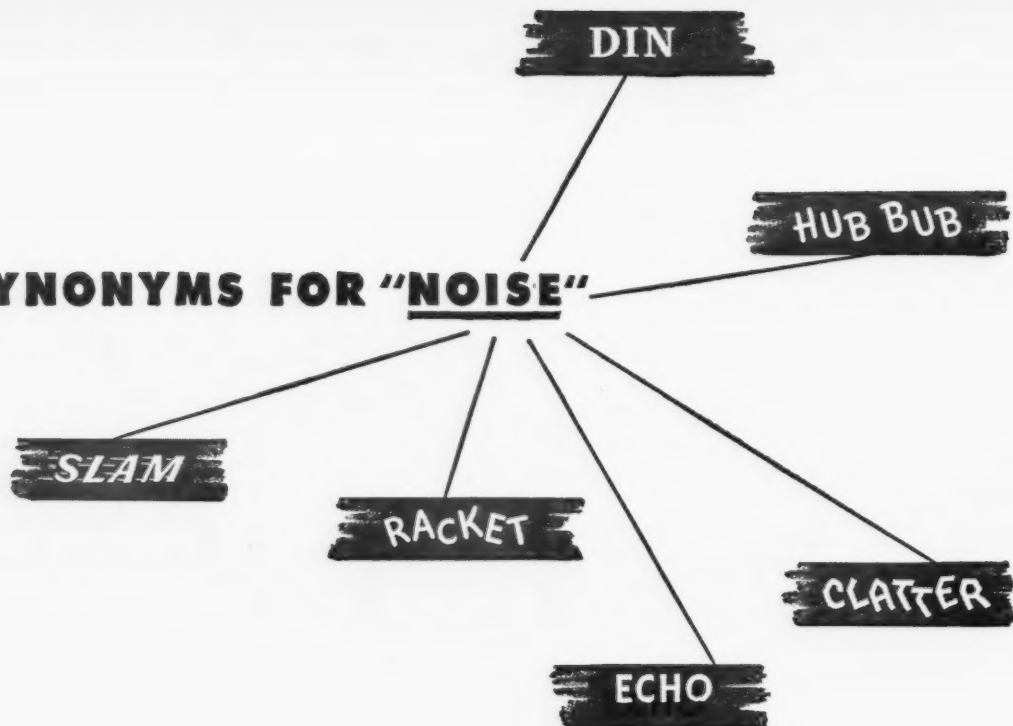


\*WIRE AHEAD, a new booklet discussing preventive maintenance . . . the symptoms of inadequate wiring . . . and presenting plans for anticipating electrical demand, is now in preparation. We shall be glad to send it on request as soon as it is available.



**ANACONDA WIRE AND CABLE COMPANY**

## SIX SYNONYMS FOR "NOISE"



SIX proper words. All in the dictionary. But you've probably heard plenty of "synonyms" for noise that can't be printed!

However, any way you hear it, noise is a real problem in most offices and factories. Yet there's a simple, effective way to reduce harsh noise to a pleasant hush. Do as leading companies do: Sound Condition with Acousti-Celotex\* sound-absorbing tile. The results will amaze you! Nerves relax, fatigue is reduced, efficiency increases.

Prove this to yourself. Quiet just one noise center first—perhaps a general office. Acousti-Celotex, the famous perforated fibre tile and America's most widely used acoustical material, can be applied quickly and quietly without disturbing routine. It can be painted repeatedly without loss of efficiency.

The Acousti-Celotex distributor near you will be glad to consult with you without obligation. Call him. He is sound conditioning headquarters and a member of the world's most experienced organization in this field. He guarantees results. A note will bring him to your desk.

### Distributors of Acousti-Celotex in the West

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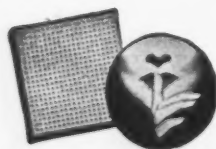
FORMERLY ROCKY MOUNTAIN ACOUSTICAL CO.  
DENVER • SALT LAKE CITY

#### THE HAROLD E. SHUGART CO.

LOS ANGELES

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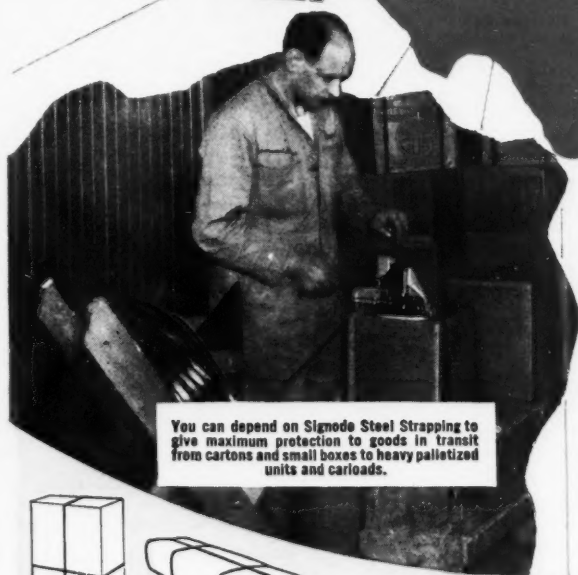
*Sound Conditioning with*  
**ACOUSTI-CELOTEX**

\* Perforated Fibre Tile REG. U.S. PAT. OFF.  
SINCE 1923



# NATION-WIDE SIGNODE SERVICE

... Steel Strapping for All Shipping Protection



You can depend on Signode Steel Strapping to give maximum protection to goods in transit from cartons and small boxes to heavy palletized units and carloads.

Forty-one branch offices—in eight major shipping areas—provide fast, nation-wide service on tools, steel strapping and seals—the basic elements in Signode's complete system of **PLANNED PROTECTION** for all types of shipping containers. The Signode **SYSTEM** cuts transit damage and helps to reduce shipping room expense.

Why not check its possible application to your own products? A Signode engineer will gladly offer specific suggestions in terms of your own packing and stowing problems. Write today!



Cartons



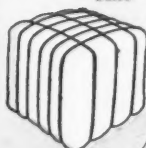
Packages



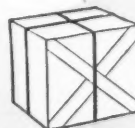
Skids



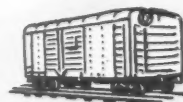
Bundles



Bales



Boxes



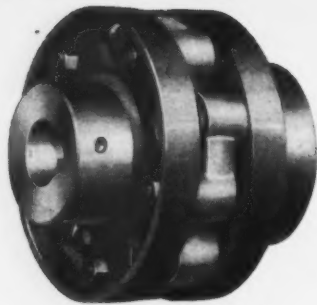
Car Loadings

## SIGNODE

STEEL STRAPPING

**SIGNODE STEEL STRAPPING CO.**  
 2615 N. Western Ave., Chicago 47, Illinois  
 441 Seaton St., Los Angeles 13, Calif. 1021 4th Avenue, Seattle 4, Wash.  
 907 N.W. Irving St., Portland 9, Oregon

# Fabco Flexible Couplings



TYPE R



TYPE SL

## Are Carried in Stock By . . .

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Helena, Montana

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Industrial Electric Service Co.  
Roseburg, Oregon

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San Francisco 7, California

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Klamath Falls, Oregon

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Lebanon, Oregon

Northwest Chains & Sprockets  
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Northwest Chains & Sprockets  
123 South West Pine Street  
Portland, Oregon

Oregon Supply Company  
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Pacific Gear & Tools Works  
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San Francisco 3, California

Pacific Hardware & Steel Co.  
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E. T. Pybus Company  
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520 South First Street  
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Standard Wholesale Supply Co.  
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Dual Drives · 6 and 10 Wheel Units · Logging and Highway Trailers · Frame Extensions



Cost accountants agree that material handling, though adding little or nothing to the finished product's value, represents up to 75% of the direct labor payroll.

Small wonder that efficient battery-powered trucks have provided sharp cuts in overall production and warehousing costs—often halving the expense of moving goods through receiving, stockpiling, processing, storing and shipping.

Users with broad experience know that, in material handling, *cost per ton* of goods transported is the final test of savings—and profits. They say invariably, "Electric industrial trucks pay off best."

And remember, over 90% of the electric trucks sold in the past twenty years are still in service.

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Two illustrated booklets—**MATERIAL HANDLING HANDBOOK** and **UNIT LOADS**—show how to effect important savings in any enterprise where materials are handled. Write us for free copies.



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There's a reason. PLASTEEL is permanent protection. Experienced construction engineers and maintenance operators — *men who know* — specify PLASTEEL because of its permanent built-in qualities. PLASTEEL is made of strong steel sheets that are covered with a plastics coating that resists the extremes of weather and all atmospheric conditions: mineral dusts, gas fumes, smoke, salt spray, and others. This coating is applied under heat and pressure to both sides of the sheet at predetermined thickness. This application hermetically seals the surface of the steel and protects it permanently against all corroding influences. For further protection the sheets are finished with pure mineral mica that needs no paint, no repairs. That's why more and more PLASTEEL is specified and used for extra-tough industrial assignments.



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# NEW STAINLESS STEEL COMBUSTION CHAMBER INTRODUCED BY DRAVO

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• In fabricating the combustion chamber of Dravo Heaters from stainless steel, many extra years of highly efficient operation have been added to the life of a direct fired heater that already has proved its worth in thousands of industrial and commercial installations.

The most vulnerable part of any heater is its combustion chamber. It is here that scale from high combustion temperatures first causes inefficiency and later failure. Stainless steel has high resistance to oxidation. This revolutionary application of high heat-resisting metal will not only prolong the life of the Dravo Heater, but will aid in maintaining its inherently high efficiency.

Other advantages gained in this important advancement include: **elimination of refractory with its troublesome maintenance; reduction of overall size and weight of heaters; more flexibility of application and over 100% greater safety factor against burning out when compared with carbon steel.**



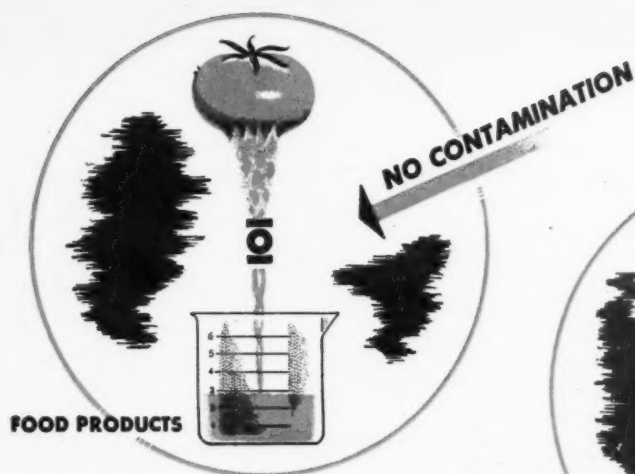
These and other improvements make the Dravo Counterflo Oil or Gas Fired Heater the most efficient and durable heater of its type available today. Write for Bulletin AM 516 for details. Dravo Corporation, Heating Section, 300 Penn Avenue, Pittsburgh 22, Pa.



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*A Valve with...*

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● The flexible diaphragm isolates the working parts of the valve from the fluid, preventing contamination, and permits streamlined flow plus positive closure even with suspended solids.

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## WAREHOUSE MATERIALS



### *Easily Handled*

*Top Photo: Miscellaneous brass goods handled with a smooth-rolling long span hand-propelled crane.*

*Right Photo: Large piles of lumber are easily moved by one man with this overhead system.*

*Left Photo: This inexpensive crane makes the handling of long unwieldy boxes a simple matter.*



Lifting, tugging, lugging of heavy or cumbersome warehouse materials not only is hard on the workers, but requires more help and time, and is a major factor affecting profits.

Cleveland Tramrail equipment of various types has been developed for nearly every warehouse requirement. This equipment makes it easy for one man to handle heavy boxes or awkward shapes and usually pays for itself in a short time.



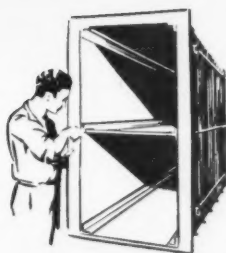
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THE CLEVELAND CRANE & ENGINEERING CO.  
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**CLEVELAND  TRAMRAIL**  
**OVERHEAD MATERIALS HANDLING EQUIPMENT**





## Protect Against **ACID CORROSION**



### ...Use *Rubber Lining* to Lengthen Life of Your Steel Containers

Through the use of rubber lining, you can now get the full benefit of the long life and economy of steel in handling, storing and transporting acids and abrasives. Newly developed synthetics are now providing protection against a wider range of acids and higher operating temperatures.

The Western process of bonding rubber to steel assures an adhesion exceeding 500 lbs. p.s.i. Held securely in position, the heavy layer of acid-resistant rubber prevents acid seeping through to the metal.

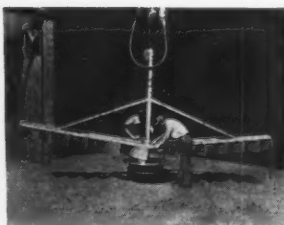
One of the first companies to experiment with rubber linings, Western Pipe & Steel is today the largest manufacturer in the West of rubber-lined steel products. Tanks or equipment of any size can be lined in plant or field.



For full details send for Western's new booklet—"Rubber-Lined Steel."



Motion picture film developing tanks lined inside and out.



Rubber lining agitator to be used in chemical mixing vat.



Running rubber-lined tanks in to steam curing chamber.

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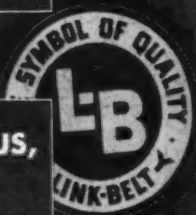
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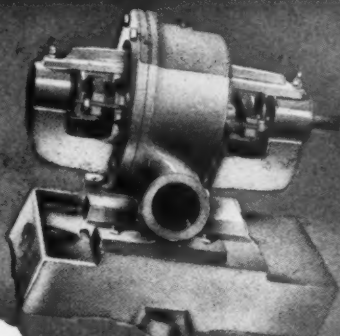
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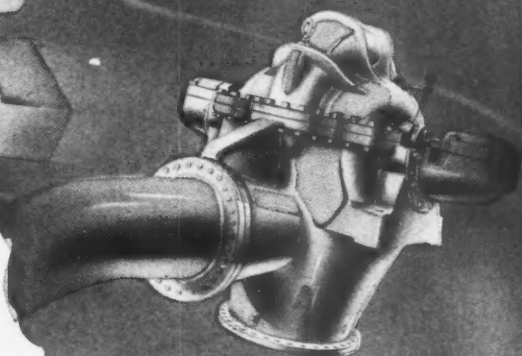
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*It costs a lot of money to make any pump—especially if you want to be a leader, not a follower, and to build a pump so efficient, so dependable that it will be second to none.*



*You pay the expense of maintaining well-staffed laboratories for product investigation and research—for continuous search for high efficiencies, better applications—and for the thorough testing of your finished product.*



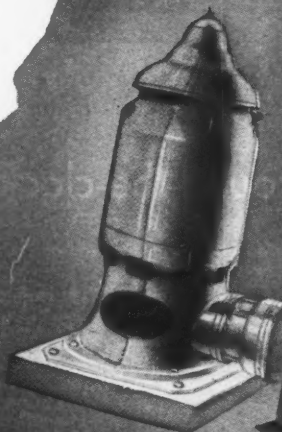
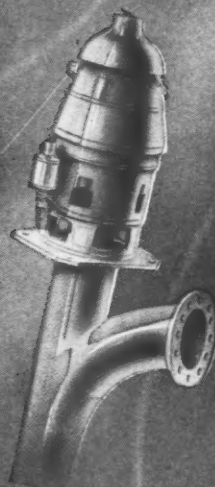
*You pay the expense of providing production facilities and techniques; you pay for new materials, new methods which, with the cost-reducing benefits of mass production, assure your customers of greatest satisfaction.*



*Finally, you've the problem of making it easy for your customers to reach you for sales, service and consultation; you must network the country with distribution centers manned by experts.*

*Yes, all this costs a lot of money. No wonder, then, that there are so few pump manufacturers with this valued background. Among them, Fairbanks-Morse is an unquestioned leader in all phases of liquid-moving service . . . For all pumping problems, first see your Fairbanks-Morse dealer or call at the nearest Fairbanks-Morse branch office.*

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*Modern battery powered trucks will give you all the capacity you need plus safety, every-day dependability*

*and freedom from maintenance. When all the costs are counted, battery-power costs less.*

*The 10' extra capacity, and longer life of Philco "Thirty" Storage Batteries have*

*introduced a new era in low-cost handling. Write for latest catalog of specification data.*



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## In Our Mail Box

### Unification of the West

Editor, *Western Industry*:

I have given this matter of unification of the West in its structural growth a great deal of thought, and frankly, when reviewing all the various organizations attempting an approach to the problem, it appears they are starting in the middle and working upward.

This, no doubt, is a move in the right direction for quick results, but I feel that to develop a solid unity of the West a firm foundation must be started from the ground level. This means that the manufacturers, business men and others who have already rooted themselves in the West must participate in the establishment of any possible plan and program for Western unity. An active liaison must be maintained between all such organizations throughout the West.

Just how one might go about a firm approach to this problem is frankly the \$64 question. I am a firm believer in the Western States Council, and it is quite possible that more activity on their part in the direction mentioned above conceivably could bring about grass roots relationship which is so badly needed.

California has already led the way in obtaining the same commodity rates on eastbound movements as on westbound, and not knowing all of the ramifications involved, I can't help but wonder if this had been approached on a "unity of the West" basis, the rates might have been enjoyed by all. This freight problem is a tough one, and must be worked out by the West as a whole.

The West, being a young country, should quickly recognize the necessity for supplying its own venture capital, rather than rely upon the East. A thorough study of the many industrial development corporations which have operated over a period of years in the East might well be adapted to the many communities in the West. If one large Western organization could undertake such a study and come out with a flexible program which could be readily used by all communities, much headway could be made on this problem.

D. W. WALTERS  
Managing Engineer  
Inland Empire Industrial  
Research, Inc.  
Spokane, Wash.

### Which Official Is Right?

Editor, *Western Industry*:

In your December issue of *Western Industry* there appeared on page 27 an article discussing the design of the new Kaiser coach.

I am enclosing a photostat copy of a letter we received from the Wyoming Public Service Commission. This is one of many we received upon application to various states at the time the coach was being designed.

We trust this will explain in some way our decision to construct the Kaiser coach as it now is.

V. F. ANTOINE  
The Permanente Metals Corporation  
Permanente, California.

EDITOR'S NOTE: The article in the December issue referred to above is a letter from W. H. Fisher, bridge engineer of the Wyoming Highway Department, saying that the new Kaiser

(Continued on page 29)

## EDITORIAL COMMENT

### A Challenge To Consider

THE economic West has arrived at the stage where it is being diagnosed in books and magazines to see what makes it tick. To some writers it is a strapping young giant, glowing with health and energy; to others a pallid life-prisoner of economic royalists of the East; to still others a Sleeping Beauty about to be awakened to its destiny (and saved from destruction) by the New Deal kiss of a gallant prince (Jimmy Roosevelt, Henry Wallace or who-have-you?) fresh off the plane from Washington, D.C.

All this is to the good, whether the commentaries are favorable or unfavorable, sparkling or dull, true or false. At the least they help awaken the West to a sense of its identity, and at the most they stimulate beneficial self-examination.

Westerners who are studying the West's present and past with a view to preserving and enhancing its future (and, believe it or not, there are quite a few such in various walks of economic life) will do well to add these writings to their libraries—and read them. Why, when many of the pages are full of childish economics, of tilting at windmills, of cocksure, amateurish solutions for gigantic problems? Simply because the West is in vital need of a consciousness of its economic identity, and the least competent critic may accidentally help to paint that picture. At the same time, all of the dangers forecast by these critics cannot be blindly ignored. Some are too ridiculous even to mention, and common sense will shatter many other gloomy predictions, but the most recent, by Bernard Devoto in the January issue of *Harper's Magazine*, is a real challenge.

He asserts that the soil of the "interior West," as he calls it (he might well have described it as the roof of the continent) and therefore much of its future economy, is being washed into its rivers through overgrazing by stockmen and overcutting by lumbermen. He gives credit to the bigger lumber companies of the West for attempting to save Western timber, but says they are outnumbered. Mr. Devoto asserts that the situation is a repetition of the destruction of the fertility of the Euphrates and Tigris valleys in ancient Mesopotamia, and of the central plateau of Spain in the middle ages. Both these areas are now deserts. His challenge to the West is something to think about. He may have exaggerated the dangers, but the West needs to be certain that its natural assets are not destroyed.

### It Could Be

THE denial by employees of the right of employers to organize and the refusal by employees to accept the procedure of collective bargaining leads to strikes and other forms of industrial strife or unrest, which have the intent or the necessary effect of burdening or obstructing commerce by (a) impairing the efficiency, safety, or operation of the instrumentalities of commerce; (b) occurring in the current of commerce; (c) materially affecting, restraining, or controlling the flow of raw materials or manufactured or processed goods from or into the channels of commerce, or the prices of such materials or goods in commerce, or, (d) causing diminution of employment and wages in such volume as substantially to impair or obstruct the market for goods flowing from or into the channels of commerce."

Editor's Note: The above is not an NAM handout, but merely the first paragraph of the Wagner Act, with the "r" in "employers" changed to "e," and the "e" in "employees" changed to "r."



Bay State, with a new streamlined system of processing orders, 80% more manufacturing space, additional equipment, and new modern facilities for stock, now offers you improved delivery. We have added to our personnel, and appointed several new distributors strategically located to serve you, while our regular distributors have greatly increased their stock of wheels.

Large enough now to meet quickly all your abrasive needs, we are still small enough to give your orders individual attention.

These improved facilities and our usual high quality product warrant a trial.

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## MAIL BOX (Continued from page 27)

bus apparently violated the laws on vehicle lengths adopted by 31 states. The photostatic copy of the letter mentioned by Mr. Antoine is from M. P. Holt, manager, Transportation Department, Wyoming Public Service Commission. It says:

"In reply to your letter of January 12, please be advised there is no Wyoming law or regulation governing the construction and operation of motor coaches and trackless trolleys, except that such vehicles must be safe and sanitary.

"This Commission has no jurisdiction over intra-city operations, such control being vested in city authorities."

### Rational Answer Is Possible

Editor, *Western Industry*:

A couple of years have passed since that notable Pacific Coast Executives Conference on Public Relations, held at Salt Lake City. Since that time much water has flowed under the bridge and some of the issues raised at that meeting have assumed alarming proportions.

In view of present disturbed conditions I am sure you will agree that something must be done pretty soon to spare our country the disgrace of bogging down, as a result of internal discord, in the face of one of the greatest opportunities in our history.

On every side we witness the spectacle of economic law being displaced by economic power as the determining factor in determining wage levels.

On every side also we see alien ideologies, instead of American principles, serving as the basis for employer-employee relations.

Some of us, including yourself, no doubt, are still convinced that a rational American answer to these vexing problems can be found.

RALPH CHAPLIN  
Roderick Olzendam and Associates  
Tacoma, Washington.

### Those S. P. Ads Again

Editor, *Western Industry*:

We of the airlines feel that if people wanted to walk to their destinations, they would start out on foot and save their fare at the expense of their shoes. However, we have nothing against trains—they serve their purpose much in the same manner they did in 1898.

As for answering their advertising attacking the airlines, we feel that they must be worrying and rightly so, and refuse to dignify the ads with a reply—besides it's hard to think up a good one without getting down into the small boy and mudball type of thing.

We are not stuffy about it, rather happy that people have adopted the fast, clean and modern way to travel and have scared the poor railroads into attacking our service rather than improving their own.

WILLIAM CULLENWARD  
Manager, News Bureau  
Transcontinental and Western Air, Inc.  
San Francisco.

### Utah Objects Strongly

Editor, *Western Industry*:

Our attention has been called to some rather sweeping statements in your November issue of *Western Industry* about the administration of unemployment insurance in the eleven Western states.

(Continued on page 31)

## THE SECRET ROOM IN YOUR PLANT

IT'S THERE—probably right where you need it most—more room for materials. Part of it may be right beside your machines. Part of it is on the loading platform where space is always at a premium. Part of it will be in your warehouse.

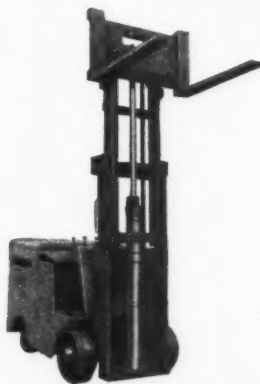
USE IT—that space above the five-foot-level! Clear your aisles and loading platforms. Simplify warehousing. The Crescent PALLETIER makes *vertical* space *usable* space.

The PALLETIER slips in and out of congested aisles and areas, negotiates steep ramps, steps up loading and unloading of common carriers, ends demurrage.

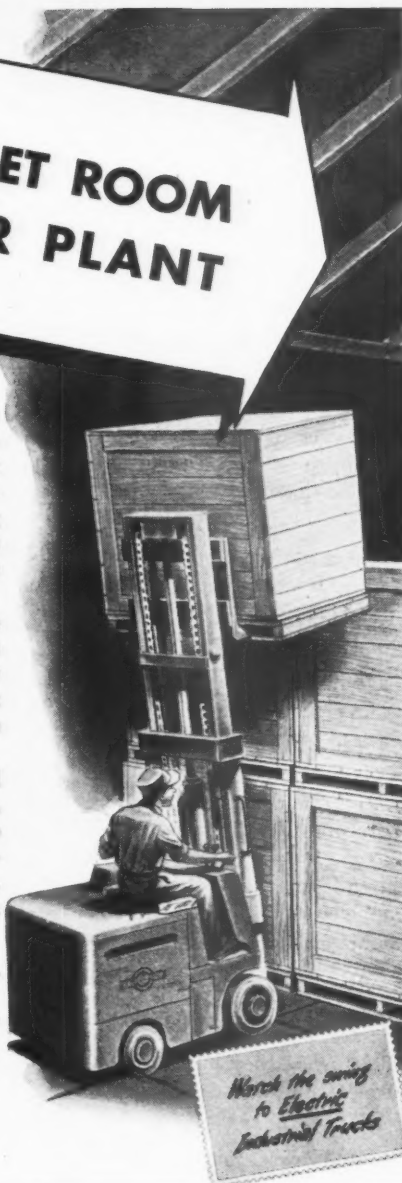
Send for the PALLETIER bulletin now.

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- Operator spots and tiers without stirring from seat.
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*This is the truck to take  
loads off your mind.*

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THOUSANDS OF EXECUTIVES  
HAVE OVERCOME THEIR DEFICIENCIES  
THROUGH THIS OUTSTANDING COURSE  
IN BUSINESS ADMINISTRATION

In this dynamic age, where is the executive who knows all the answers?

For every day sees American business and industry pushing forward to new frontiers...revolutionizing the practices and methods of *yesterday*, and posing new and complicated problems for tomorrow.

Never has there been a time when executives must be freer from the handicaps of blind spots in business knowledge.

For example:

If you are an expert in Production, and one day destiny calls upon you to assume *broad*er responsibilities...will you be prepared to handle the reins with a firm grip?

Will you also know the essentials of Marketing...Accounting...Finance? Or will they be "Greek" to you, leaving you floundering and uncertain...dependent upon others to make decisions you would confidently make if your training was more comprehensive?

Not only in the higher altitudes of management, but down, also, through the lower executive levels, men are much better equipped for heavier responsibilities when they know the basics underlying *ALL* business and industry operations.

## Covers Four Great Fundamentals

Since 1909, the Alexander Hamilton Institute has helped thousands of major and minor executives to overcome their deficiencies in essential business knowledge. And as a result has assisted them in moving up to more important duties and higher salaries.

The Institute's Modern Business Course and Service thoroughly covers all four of the great fundamentals of business—Production, Accounting, Finance and Marketing.

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tration. The roster of those who have been trained by this method includes many of the most successful businessmen and industrialists in this country and in Canada.

Companies and corporations in many lines of business have been so impressed with the value of this course in developing skilled executive material, they frequently suggest it to men of promise, often paying all or part of the fee.



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 Position .....  
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## MAIL BOX (Continued from page 29)

I think it is unfortunate that you made such sweeping statements, which as far as Utah is concerned, are very definitely not based on facts.

We are sending you three copies of the Utah Employment Security Digest: Dec. 29, 1945, "Problem of Suitability"; Jan. 19, 1946, "Strikes and Unemployment Insurance"; Sept. 10, 1946, "Staff Men Probe Attitudes — Nine Ways a State Has Approached the Benefit Problem."

We particularly ask you to study over this issue of September 10, 1946, and then we hope you will understand why we very deeply resent your wisecrack about "moral regeneration in the administration of unemployment compensation" and "apparently administrators as well as claimants regard compensation as something to be dealt out with as free a hand as possible."

B. L. FLANAGAN  
Department of Employment Security  
Executive Director  
Industrial Commission of Utah.

### We Thank You, Mr. Irving

Editor, *Western Industry*:

We have been a regular subscriber to *Western Industry* for several years. Let me say that I believe it to be a splendid magazine, and its handling of discussions of industrial relations problems has been both intelligent and interesting.

C. L. IRVING, Secretary  
Pine Industrial Relations  
Committee  
Klamath Falls, Oregon

### We Thank You, Mr. Dexter

Editor, *Western Industry*:

After studying an issue of your publication, we feel that it is definitely helpful to this part of the country and suggest that you use this as your authorization to enter our name on your subscription list.

ROGER W. DEXTER  
The Dexter Metal Treating Company  
Oakland, California.

### We Thank You, Mr. Scott

Editor, *Western Industry*:

I still maintain that *Western Industry* contributes a lot to our general knowledge of conditions in the West, so I am enclosing my check for \$4.00 to cover my subscription for another year.

M. H. SCOTT  
Carbide and Carbon Chemicals  
Corporation  
San Francisco

### We Thank You, Mr. Arpke

Editor, *Western Industry*:

As you know, members of the technical staff of the Bonneville Power Administration are regular readers of *Western Industry*, which we find consistently useful and interesting.

FREDERICK ARPKE  
Economist, Market Analysis Section  
Bonneville Power Administration  
Portland, Oregon.

### Research Man Interested

Editor, *Western Industry*:

I am interested in seeing a copy of your November issue of *Western Industry* and shall appreciate it if you will forward one to me at your earliest convenience.

WILLIAM F. TALBOT, Director  
Stanford Research Institute  
Stanford University, California.



Gas-fired furnace at American Forge Company's Berkeley, Calif. plant softens up carbon-steel diesel crankshaft for forging under ten thousand-pound steam hammer.



## Modern "BLACKSMITHS" use GAS fuel!

Today's huge forging plant relies on gas to speed heating operations far beyond the scope of its predecessor—the village smithy. ★ More than mere heat, however, modern industry demands *exact, automatically-controlled temperatures*. Gas fuel meets these requirements quickly, economically, dependably. ★ Of today's thousands of industrial gas users, scarcely any two are identical in heat requirements. But gas fuel is flexible; gas-fired equipment, adaptable to *your* needs. Consult your gas company's engineers. Their practical *experience* assures practical *advice*.

### THE PACIFIC COAST GAS ASSOCIATION

The West Prefers

# GAS



QUICK • CLEAN • DEPENDABLE • FLEXIBLE • ECONOMICAL



## New Neighbor in Los Angeles

By now you may have heard about your new neighbor—Joseph T. Ryerson & Son, Inc., located in the Central Manufacturing District of Los Angeles. We began operations only recently and are now beginning to work with West Coast steel users.

Being a good neighbor to industry is not a new business with Ryerson. Our complete, personal steel service is the result of experience developed through more than a hundred years of close cooperation with the builders of America. During that time Ryerson's facilities have consistently reflected the most modern, highly developed methods of steel handling and distribution.

Due to present steel shortages, our Los Angeles stocks are still incomplete. But if the particular steel you need is not available for immediate shipment, our staff of technical men will gladly assist you in the search for a practical alternate. And to further aid us in meeting your requirements, our Los Angeles stocks and facilities are constantly being supplemented

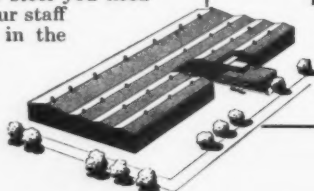
by the resources of 11 other plants in the Ryerson system.

We shall be happy to have you pay us a visit when you're in the vicinity, and we look forward to the opportunity of proving ourselves good neighbors, now and in the years to come.

Joseph T. Ryerson & Son, Inc., 4310 East Bandini Boulevard. Mail address: Box 3817 Terminal Annex, Los Angeles 54. Other plants: New York, Boston, Detroit, Philadelphia, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis.

### MEET US AT THE METAL SHOW

... In booth C-21 at the Western Metal Exposition in Oakland next month. See our demonstration of the Jominy Tests made on every heat of alloy in stock at the new plant pictured here.



# RYERSON STEEL

# Spotlight

## on the NEWS

**WESTERN INDUSTRY**  
**FOR FEBRUARY, 1947**

VOLUME XII

NUMBER 2



Where would you rather be, locked up in the doghouse, or getting a nice handout of beef stew and vegetables at the kitchen door? The answer is obvious, but Matson Navigation, Oceanic Steamship and other American-owned lines can't figure out why they are consigned to the doghouse when they file applications with Civil Aeronautics Board for overseas air operations from Pacific Coast ports, while the foreign-owned lines get the big welcome at the kitchen door.

They say that CAB won't tell them when their applications will be reviewed, but that the foreign lines, like Australian National Airways, which is owned by Australian steamship companies, get immediate attention. In one case the petition was filed one day and reviewed the next.

CAB seems to assume that its duty is to prevent American-owned companies from monopolizing different types of transportation, although there is nothing in the Congressional act creating CAB to prohibit surface carriers operating airlines. As for foreign companies, apparently it has no jurisdiction, except as to whether they may enter under the bilateral trade treaties, a responsibility of the state department.



### Coin From Atom

This is not an official press release from the Atomic Bomb Laboratory at Los Alamos, New Mexico, that shush-shushest of all shush-shush places in the eleven Western states, even more secretive than Democratic National headquarters.

It is restricted information—restricted to readers of *Western Industry*. A very good friend of ours, who has seen the Los Alamos (or should we say Los Alamoses?) many times at work and at play, told us in a very unrestricted conversation in a hotel lobby in Albuquerque that these awe-inspiring scientists delving into the deep unknowns behind a black veil of

secrecy are mostly a bunch of youngsters in their early twenties. These kids don't believe the sky is the limit—they push the sky back still further with their ideas on what atomic energy will be doing before long.

And don't think for a minute that they are just starry-eyed boys. As a result of their research, two of them discovered a highly valuable industrial mineral, quit their probably miserably-paid jobs at Los Alamos and located a claim "somewhere in New Mexico." At last reports they were rapidly transmuting this new found mineral into large bank balances.



### On the Upgrade Again

Toboggan slides all have bottoms, even in Washington, according to John D. Davis, Commissioner of Unemployment Compensation and Placement for that state.

By the middle of last November the downward trend which has characterized state-wide employment since the end of the war in the state was nearly halted, despite the crippling effect at that time of the maritime strike on shipyard employment and its indirect effect on other industry, and the declining employment in military establishments.

For the first time since the end of the war no net loss was registered in employment at the nine major private shipyards, while lumbering, non-seasonal food processing and retail trades registered substantial increases. A continued small net increase is looked for by major employers for the immediate future.



### Some Bargains Costly

With War Assets Administration disposing of property from World War II at 20 to 50 cents on the dollar, or even less, it is enlightening to compare this frantic haste to dump everything in no time at all to the record of a World War I agency that was just dissolved last December.

It was the Spruce Production Corporation, originally formed to get out spruce in the Pacific Northwest for manufacture of aircraft in the conflict of 1917-1918. From then until the end of 1946, it continued operating under an order to secure return of the government funds invested.

During the corporation's greatest period of activity it built 13 railroads and three large timber mills. By 1922 it had sold all but one railroad and a few miscellaneous items, but foreclosing and reselling kept the corporation in business until it was dissolved last December.

At the dissolution all money appropriated to the corporation by the government had been returned, plus payment of one per cent on the capital stock and a profit of \$2,000,000. But then, it took 28 years to do it, and today we probably would consider that was entirely too long for the government to continue in private business. On the other hand, what about reducing our national debt a bit by getting more money out of our war surplus?



### Substitutes for Ships

The latest experiment in materials handling seems almost as imaginative as the war-devised American landing craft with their let-down ramps in front that enabled our armed forces to land where Germans, Italians and Japanese thought it was impossible.

Lumber is now to be barged from Portland to Hawaii because of the lack of adequate steamship space, and on the return voyage the barges will carry heavy equipment to Los Angeles. Roy Stotts, president of Globe Distributing Co. of Portland, says that two Portland Tug & Barge Co. 203-foot ocean-going barges will be used, each capable of carrying 1,000,000 feet of lumber.

Globe is the buying agent in Portland for the American Lumber & Manufacturing Co., which has an interest in construction of 500 veterans' houses in Hawaii.



## Any business that uses trucks can profit from White's "Continuing Control System of Truck Management"



Photo courtesy of  
Ron Riley, Bandon, Oregon.



**The system is easy to put into effect. All necessary material is ready. Your local White representative will gladly furnish complete information.**

FOR MORE THAN 45 YEARS, ever since the start of truck transportation, the name of White has been associated with pioneering leadership. And in White's opinion, no step it has ever taken in the past, to extend the usefulness of trucks to new fields of industry, has been more important than the one it is taking now—to help every field of industry avail itself of all that modern truck transportation has to offer when it is properly

applied, maintained and used. White believes that perhaps never again will so many truck owners be in more logical position with respect to worn-out equipment on hand to make a thorough reappraisal of their transportation requirements in the light of their exact needs and take full advantage of the bettered service and lowered cost which properly applied trucks, correctly maintained and driven, can provide.

**THE WHITE MOTOR COMPANY • CLEVELAND**  
*Pacific Coast branches and dealers in all the important cities*



**FOR MORE THAN 45 YEARS THE GREATEST NAME IN TRUCKS**



# THE WESTERN OUTLOOK...News...Statistics...

1

In order to give our readers an interpretation of the trends in some of the principal industries of the West, Western Industry this month introduces a new format and style of treatment for its Statistical Department. Heretofore it has been principally a statistical report with a minimum of explanation and interpretation, carried near the back of the magazine. Now our service expands.

## Employment Picture (By C.D.E.)

IT SEEMS like a long time from the days, less than 18 months ago, when the anticipation of postwar-to-come unemployment in the West was a favorite and remunerative subject for eastern (and some Western) magazine writers.

It is no longer news that the pessimists were wrong; but the extent of the error is illuminating. In the three coast states, for instance, unemployment is reported to have fallen to under 400,000 just one year after V-J Day. The pre-war figure (in April 1940) was almost 600,000—at a time when the coast population was some 2,500,000 smaller than at present.

The same trend is observed in the mountain states where employment in manufacturing had practically regained the pre-V-J Day level by October 1946. During the first postwar year practically no distress unemployment was reported, and actual labor shortages were experienced in many areas in spite of the demobilization of over 1,000,000 veterans.

The most important sour notes in this success story have been the big coastal centers of the aircraft and shipbuilding industries where significant unemployment persists throughout the year.

At any rate, despite its heavier handicap, Western enterprise rivaled the nationwide mark in providing useful employment to its veteran and civilian population.

Unfortunately, the achievement is not being sustained because of the seasonal nature of Western industry. Contrary to the national trend, unemployment rose sharply in November and December throughout the eleven states as agricultural, food processing, and high level logging activities declined.

Consequently, unemployment and welfare taxes will continue higher than necessary and local purchasing power and business activity lower than necessary because we have not succeeded in smoothing out the seasonal swings.

Size of the problem is illustrated by fact that claims for unemployment compensation more than *quadrupled* in a recent 60-day period in such cities as Sacramento and San Jose, California. In such areas not much improvement is likely until March or later. One significant by-product of the slump in such areas should be a noticeable improvement in labor productivity and the filling of many openings which have remained vacant due to wage or working condition problems.

The outlook for Western employment during the next year is as always, dependent on the general economic situation,—i.e., the business cycle. And many factors point toward a nationwide business slump of noticeable (not necessarily lengthy) proportions during the year.

Certainly the very factors used by some observers to forecast the continuing "soundness" of the economy (enormous consumer spending, rapid increase in business borrowing, etc.) suggest to this writer the frantic boom days preceding the "bust" in the typical business cycle. Marked rises in inventories and the seldom noted fact that *retail sales on a physical volume (rather than dollar value) basis have been tending downward since mid-year* reinforce the belief.

Only a few other indications of such a development are so far discernible in the West. One is the fact that total non-

seasonal employment, at least in the coast states, appears to have leveled off after the sharp and continuous rise of the last year. Another is that the number of newly formed business enterprises subject to state unemployment compensation laws, is remaining stable while liquidations are increasing. New Mexico reported an actual decrease in the total number of subject firms in its last monthly report.

Such a reversal of trend would be very significant in view of the fact that thousands of small businesses formed during the last year would be first to suffer from the type of business crisis which we seem to be entering. Further, the growth of the small business population proved to be a major factor in holding reconversion unemployment of veterans and others to its very low level.

In the event of a sharp deflationary movement, Western industry and employment would, of course, suffer. How much and how long are unanswerable questions without first predicting the length and events of the "recession." Whatever its length, however, we still believe that Western industry should lead in the recovery in view of the growing national recognition of the "inevitability" of Western growth.

If the expected deflationary movement is deferred, 1947 employment in the Western states may bear a marked resemblance to the late 1946 pattern. Expansion is sure to be at a slower rate, so far as total employment is concerned, and increased productivity together with continuing declines in Federal government employment may affect much of the increased employment expected from increased industrialization.

## MANUFACTURING EMPLOYMENT

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

	MONTANA		IDAHO		WYOMING		COLORADO		NEW MEXICO		ARIZONA		UTAH		NEVADA		TOTAL MTN.	
	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
July .....	14,700	15,200	17,600	19,200	5,300	6,100	59,000	53,200	8,600	9,300	23,200	11,700	25,100	25,702	2,600	2,800	156,100	144,190
August .....	16,500	16,400	17,200	19,600	5,400	6,200	57,800	55,600	8,600	9,300	21,700	11,600	24,900	24,603	2,800	3,200	151,400	146,460
September .....	14,600	16,500	15,600	19,500	4,200	5,900	41,300	56,500	5,100	9,400	18,500	11,100	20,700	28,999	2,600	3,200	117,600	151,099
October .....	14,200	17,700	17,200	19,800	6,100	6,400	52,100	57,100	8,400	10,300	12,500	11,300	19,900	27,770	2,600	3,100	132,800	154,270
November .....	14,000	17,700	17,500	20,400	6,400	6,800	52,900	58,000	8,500	10,300	.....	.....	13,600	27,960	2,800	3,300	.....	.....

	WASHINGTON		OREGON		CALIFORNIA		TOTAL PACIFIC	
	1945	1946	1945	1946	1945	1946	1945	1946
July .....	262,100	162,300	164,800	121,900	887,000	695,000	1,315,600	979,200
August .....	253,100	163,500	163,200	127,600	888,500	733,900	1,304,800	1,025,000
September .....	199,200	167,900	142,300	129,000	742,000	730,600	1,083,500	1,027,500
October .....	172,900	168,500	112,500	123,200	688,300	717,200	973,700	1,008,900
November .....	164,800	162,000	.....	.....	621,500	698,900	.....	.....

## INSURED UNEMPLOYMENT

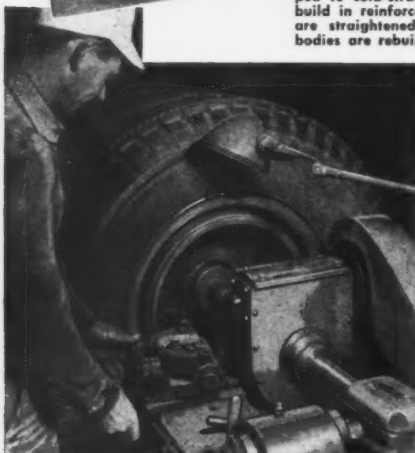
(Under all programs: figures in thousands. From Social Security Board)

Week ending	Ariz.	Colo.	Idaho	Mont.	Nev.	N. Mex.	Utah	Wyo.	Total Mtn.	Calif.	Ore.	Wash.	Total Pacific
November 2	4.6	4.1	1.0	3.0	1.2	2.9	4.2	.3	21.3	156.2	12.0	35.1	203.3
December 7	5.6	7.0	2.3	4.9	1.5	4.2	5.4	.8	31.7	209.8	19.0	59.6	288.4

# Service is Not a Sideline with FRUEHAUF!



**MAJOR REPAIRS AND ALTERATIONS**—Fruehauf is equipped to cold-straighten damaged frames, and build in reinforcement, if needed. Axles, too, are straightened and reambered. Damaged bodies are rebuilt, and any alterations made.



**BRAKES AND DRUMS**—new lining is installed, worn parts are replaced—scored and out-of-round drums reground on special machines. Valves and air lines are tested to insure positive satin-smooth action, like new.

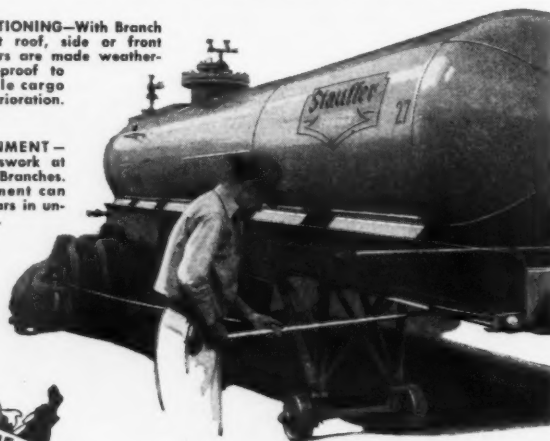


**BODY RECONDITIONING**—With Branch body equipment roof, side or front panels and doors are made weather-tight and leak-proof to protect valuable cargo and prevent deterioration.

**WHEEL ALIGNMENT**—there's no guesswork at Fruehauf Service Branches. Proper adjustment can save many dollars in unequal tire wear.



**PAINTING**—Fruehauf Branches have equipment to speedily clean rust and corrosion from frames and bodies in preparation for painting. Finest giant-size water-wall paint spray booths insure a durable Factory-smooth job for any size Trailer.



World's Largest Builders of Truck-Trailers  
**FRUEHAUF TRAILER CO.**  
Western Manufacturing Plant — Los Angeles

SALES AND SERVICE BRANCHES — LOS ANGELES • SAN FRANCISCO • PORTLAND • SEATTLE • EL PASO • PHOENIX  
SAN DIEGO • FRESNO • SPOKANE • BILLINGS • SALT LAKE CITY • DENVER

## FRUEHAUF TRAILERS

"Engineered Transportation"

# THE WESTERN OUTLOOK...News...Statistics...

2

## Commerce-Banking

Prospective freight carloadings for the first quarter of 1947 are up 17% in the California-Nevada-Arizona-New Mexico territory over last year, and nearly 16% in the Pacific Northwest.

Significant increases in the former territory from Pacific Coast Transportation Advisory Board estimates are, in percentages: canned goods, 56%; automobiles and trucks, 111%; gravel, rock and sand, 19%; iron and steel, 46%; lumber and forest products, 56%; ore and concentrates, 29%; manufactures and miscellaneous, 29%.

cellaneous, 29%.

The Pacific Northwest Advisory Board estimates of increases include: lumber, 20%; grain, 242%; poultry and dairy products, 37%; sugar, 30%; iron and steel, 40%; other metals, 36%; brick and clay products, 29%.

Wholesalers' sales reveal the spotty and uncertain production and pricing situations in the last half of 1946, although the volume in everything was well above 1945. Automotive supplies had two top months, August and September; while electrical goods climbed slowly but

steadily. Foods, hardware, lumber, machinery and metals see-sawed, while industrial supplies picked up some headway.

Retail business, as indicated by department store sales, was about 25% greater in the summer and early fall than in 1945, although price increases may account for part of the greater dollar volume.

Commercial bank deposits and savings accounts have continued to increase month after month, and loans jumped about one-third in the last half of 1946.

## FREIGHT

Cars of revenue freight, railroad carriers in 11 Western states.

(Compiled from Assn. of Am. R.R. weekly reports)

	Carloadings		Received from Eastern Connections	
	1945	1946	1945	1946
August	695,277	746,210	450,497	379,792
September	595,143	606,037	310,868	305,872
October	617,023	667,851	313,964	328,082
November	535,620	731,456	278,746	366,315
December	586,302	487,495	240,906	258,838

## BANK DEPOSITS

(In millions of dollars—adjusted)

Daily average for month, all member banks in 12th Federal Res. Dist. Demand deposits excluding U. S. Gov't deposits, cash items in process of collection, and interbank deposits.

	Demand Deposits		Time Deposits	
	1945	1946	1945	1946
July 1946	8,374	5,542	8,397	8,992
August	8,397	8,992	8,547	5,607
September	8,547	5,607	8,617	5,662
October	8,617	5,662	8,737	5,714
November	8,737	5,714		

## BANK LOANS

Industrial, commercial and agricultural (In millions of dollars)

From weekly reporting member banks of Fed. Res. System in 7 Western cities: L. A., S.F., Portland, Seattle, Tacoma, Spokane, and Salt Lake.

	Average of Wednesday reports	
	1945	1946
July 1946	740	811
August	811	896
September	896	887
October	887	1,074
November	1,074	1,106
December	1,106	

## INDEX OF DEPARTMENT STORE SALES

Index numbers, 1935-39 daily average=100 with seasonal adjustment. Compiled by Federal Reserve Bank.

	Total 12th Fed. Res. Dist.		Southern California		Northern California		Portland		Western Washington		Eastern Washington and northern Idaho		Utah and southern Idaho		Phoenix	
	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
July	258	322	261	336	244	292	234	303	310	367	216	290	254	331	304	381
August	231	324	231	339	212	288	211	301	275	364	232	325	257	364	324	444
September	232	313	238	327	221	285	229	295	260	337	224	296	232	319	293	426
October	245	319	265	349	224	284	227	288	281	353	200	276	228	301	261	346

## WHOLESALESALES

In thousands of dollars. Percentage changes are from corresponding month of preceding year. From Bureau of the Census.

	Automotive Supplies		Electrical Goods		Furn. and house furn.		Groce. and foods exc. farm prod.		General Hardware		Industrial Supplies		Lumber & bldg. mat.		Mchy., equip. and supplies excl. elec.		Metals	
	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
June	2,698	+20	5,431	+29	1,779	+54	11,561	+16	6,808	+47	515	-5	874	+17	744	+85	734	+25
July	2,963	+42	6,797	+65	1,691	+79	8,982	+14	5,519	+43	1,807	+5	964	+31	782	+20	611	0
Aug.	3,244	+41	8,506	+103	1,338	+40	9,758	+16	7,359	+53	2,122	+9	1,045	+18	421	-1	705	+34
Sept.	3,433	+52	8,084	+140	2,600	+85	10,250	+33	5,869	+65	1,913	+30	1,070	+47	571	+66	683	+91
Oct.	1,906	+23	8,878	+117	434	+117	13,286	+23	4,990	+73	2,117	+48	882	+41	823	+18	630	+51
Nov.	3,135	+33	9,691	+130	2,262	+3	10,065	+17	5,353	+49	1,962	+45	1,215	+100	549	+49	768	+66

## MOUNTAIN

	Automotive Supplies		Electrical Goods		Furn. and house furn.		Groce. and foods exc. farm prod.		General Hardware		Industrial Supplies		Lumber & bldg. mat.		Mchy., equip. and supplies excl. elec.		Metals	
	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
June	862	+55	1,450	+62	352	+19	4,584	+24	1,265	+57								
July	885	+62	1,702	+92	367	+50	4,248	+38	1,555	+58								
Aug.	940	+66	1,772	+117	...	...	...	...	1,481	+62								
Sept.	989	+57	1,954	+139	...	...	5,373	+51	1,616	+78								
Oct.	815	+84	1,939	+127	...	...	5,698	+44	1,832	+56								
Nov.	788	+25	1,999	+105	...	...	4,984	+23	1,674	+54								

## Power and Fuels

Electric utilities in Pacific Coast territory are faced with the biggest demand in history, residential, commercial and industrial, far beyond what had been anticipated, because war workers didn't go home to other states and industry did not obey the forecasters and fold up. From 800,000 to 1,000,000 additional kilowatt-hours capacity in California will be supplied by new steam generating plants, plus more hydro in northern California. California's expansion program is the largest in the country. Demand from the light metals industry has already brought the Pacific Northwest back almost to its big war load.

The petroleum industry in California, running at capacity, ended the year 75,000,000 to 100,000,000 barrels below what it had hoped to add to reserves.

After the end of the coal strike in December the war-time distribution plan for coal was resumed in modified form in the Rocky Mountain area. It had been dropped earlier in this area than in the rest of the country. Production has been coming up fast since the strike, but has been hampered by freight car shortages.

## ELECTRIC ENERGY

(Production for Public Use—In thousands of kilowatt hours. Source: Federal Power Commission)

	Mountain		Pacific Northwest		California		Total Pacific	
	1945	1946	1945	1946	1945	1946	1945	1946
Sept.	858,475	924,999	692,146	1,109,086	1,852,794	1,547,003	2,344,940	2,658,089
Oct.	1,024,987	992,528	1,024,917	1,121,333	1,263,068	1,523,254	2,287,985	2,774,597
Nov.	862,427	937,209	1,003,510	1,296,265	985,017	1,443,192	1,988,607	3,739,457

## PETROLEUM

(California, Oregon, Washington, Arizona, Nevada)

	CRUDE PRODUCTION (Barrels, daily avg.)		GASOLINE		TOTAL DELIVERIES (Thousands of barrels daily)		ALL PRODUCTS	
	1945	1946	1945	1946	1945	1946	1945	1946
July	396	329	59	72	421	326	1,011	859
August	370	325	78	67	434	355	1,010	885
September	363	318	76	77	400	339	954	860
October	269	320	76	100	443	326	897	876
November	271	293	106	128	418	363	901	896
December	265	...	117	...	479	...	969	...

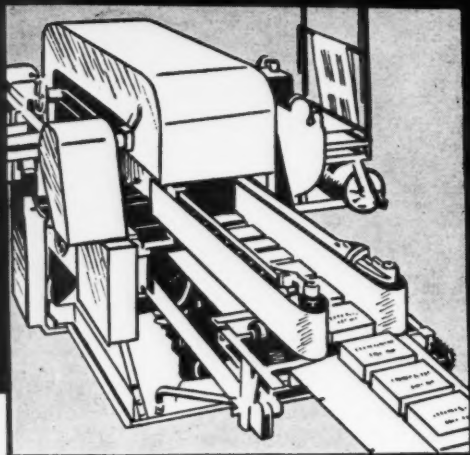
## BITUMINOUS COAL AND LIGNITE

(In thousands of tons. From Bureau of Mines)

	Price Area 6 (Colo.-N. Mex.)		Price Area 7 (Wyo.-Utah)		Price Area 9 (Montana)		Price Area 10 (Wash.-Alaska)	
	1945	1946	1945	1946	1945	1946	1945	1946
September	700	670	1,237	1,335	317	352	119	123
October	865	829	1,496	1,529	345	415	149	149
November	802	551	1,508	1,096	379	324	142	101



# economy plus safe protection



## Cycol Red Oils

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## Metals

The long-awaited steel rate reduction from Geneva to the Pacific Coast has been announced by Western Pacific, Denver & Rio Grande, and Union Pacific, effective March 1. It will be \$9.60 a ton to Los Angeles, San Francisco and Portland, \$10.80 to Seattle. Present rate is \$14. Southern Pacific, which stood out against granting an \$8 rate on government traffic in wartime like the above-mentioned lines, has not joined in the new rate, making its position consistent, although ultimately it undoubtedly will have to fall in line.

Hopes for relief in the scrap shortage from ship breaking are rising again, with reports that the Pollock yard in Stockton may be taken by a Boston firm.

British government interest in big copper commitments, general European and domestic demand, plus the Chilean strike, keep the copper market strong.

## IRON AND STEEL

Western Area of the United States From American Iron and Steel Institute (in net tons)				
	Pigiron Output	Percent of Capacity	Steel Output	Percent of Capacity
May 1946	84,799	35.2	237,759	57.2
June	104,808	44.9	248,378	61.7
July	113,233	47.1	237,626	57.3
August	121,105	50.3	265,940	63.7
September	112,527	48.3	254,775	63.4
October	109,809	45.6	271,889	65.4
November	127,986	54.8	262,913	65.3

## Alloy Steel

	Output	Carbon Ingots, Hot Topped*
May 1946	2,548	6,499
June	1,992	6,284
July	4,162	4,823
August	6,627	9,167
September	4,899	2,691
October	7,892	10,018
November	7,529	6,861

\*Included in total steel.

## COPPER

(Short tons. From U. S. Bureau of Mines)

ARIZONA		UTAH		MONTANA		NEW MEXICO		NEVADA		TOTAL 11 WESTERN STATES	
1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
May	26,090	16,350	20,900	500	8,613	4,900	•	3,906	•	4,350	85,235
June	24,110	15,800	19,771	400	8,218	4,700	•	3,983	•	4,675	84,201
July	22,055	25,950	19,826	12,350	6,651	4,900	•	4,416	•	2,100	57,176
August	22,100	26,475	18,478	13,780	6,340	4,950	•	4,098	•	3,300	57,088
September†	21,250	28,000	19,177	17,350	4,061	4,700	•	3,961	•	3,400	54,233
October	21,250	28,650	19,177	17,400	4,061	4,700	•	4,085	•	3,400	54,233
November	22,000	30,650	17,900	17,700	7,100	4,800	•	4,195	•	3,600	38,075

\*Included in total.

†Preliminary figures.

## CEMENT

(In thousands of bbls.; from U. S. Bureau of Mines)

—California—		Oregon - Wash.		Idaho - Mont.	
1945	1946	1945	1946	1945	1946
Jan.	1,258	1,159	269	234	173
Feb.	1,191	1,355	243	250	95
Mar.	1,226	1,629	250	298	122
April	1,257	1,670	208	432	130
May	1,396	1,745	238	397	273
June	1,439	1,684	303	437	305
July	1,538	1,690	278	504	317
Aug.	1,475	1,668	288	495	354
Sept.	1,364	1,683	305	530	296
Oct.	1,421	1,829	315	490	295
Nov.	1,211	1,793	299	354	333

## STRUCTURAL CLAY PRODUCTS

UNGLAZED BRICK (in thousands of standard brick)		UNGLAZED STRUCTURAL TILE (short tons)		VITRIFIED CLAY SEWER PIPE (short tons)	
Mountain Pacific	Mountain Pacific	Mountain Pacific	Mountain Pacific	Mountain Pacific	Mountain Pacific
Aug. '46	15,705	31,474	2,250	4,970	1,641
Sept.	13,508	22,080	2,397	4,315	1,604
Oct.	11,672	21,742	1,969	3,770	1,652
Nov.	11,728	19,017	2,683	3,014	1,496

## ASPHALT ROOFING

(Ariz., Calif., Idaho, Nev., Ore., Utah, Wash.)

ASPHALT ROOFING (Sales squares)		SATURATED FELTS (Tons of 2000 lbs.)	
Sept. 1946	657,881	5,087	
October	778,434	5,524	
November	707,262	5,131	

## Building Materials

California cement mills got 100,000 barrels into storage in November, but the usual winter decline in demand has not occurred, so the mills are running full tilt. Since OPA restrictions on commercial and industrial construction were lessened, a marked increase in demand has resulted, and facilities are being expanded.

Because of the housing speed-up and the lack of cast iron for side sewers, sewer pipe production records have been broken in recent months, but at the expense of roof tile and some other clay items. But for labor shortages, production could have been higher.

## Food products

Canned fruit and vegetables in California in 1946 jumped nearly 50% in volume over 1945, reaching an all-time high. Although movements have been heavy and export demands cannot be filled, some reports are current of large stocks in retailers' hands.

Total 1946 pack was 81,822,134 cases, compared with 55,485,140 in 1945. The fruit total was 40,724,388 cases, against 26,305,226 cases the year before. Vegetable output was 41,097,746 cases, compared with 29,179,914 in 1945. All-time highs in apricots (10,223,849 cases), a record pack of 7,751,629 cases of fruit cocktail, and a stupendous cling peach pack (17,284,938 cases, 5,000,000 cases more than ever

before), apparently will go into consumption, but the \$64 question is whether the market can absorb another pack of that size in 1947-48 when the trade has been stocked up.

The canned tomato pack of 5,038,436 cases was exceeded by 1,500,000 cases back in 1942, but the 9,267,624-case pack of tomato juice is a new high, and tomato paste, puree and catsup have topped previous records, while 5,285,600 cases of tomato sauce and hot sauce is about double anything previous.

But the carryover figures for January 1 show less than 7,000,000 cases of tomato products in canners' hands out of 25,000,000 cases produced, and tomatoes in good shape with only 1,274,548 cases left. Three-fourths of the

peaches are gone—only 3,497,029 cases left, five-sixths of the fruit cocktail, and (believe it or not), nine-tenths of the apricots, despite poor quality (887,224 cases left).

Frozen food statistics for California showed a substantial drop in apricots (from 50,619,008 lbs. to 33,982,246 lbs.) and cling peaches (from 26,995,833 lbs. to 4,881,038 lbs.). Freestone peaches made the best showing among fruits (21,181,662 lbs. as against 23,004,394 lbs. in 1945). Strong trend toward consumer sizes in fruits as compared to institutional. Estimates for entire coast indicate possibly 200,000,000 pounds of fruits (166,500,000 lbs. in 1945) and 75,000,000 pounds of vegetables (48,000,000 lbs. in 1945).

## Lumber-Wood Products

Western pine stocks on hand at the end of the year were 15% above a year ago. Shipments for the first quarter of 1947 are forecast as about 25% greater than the same period in 1946. Douglas fir sawmills have enough logs to last out the winter.

## LUMBER

(In thousands of board feet)

From West Coast Lumbermen's Association (Douglas Fir, Sitka Spruce, Port Orford Cedar, West Coast Hemlock, Western Red Cedar):

Year through	1944	1945	1946
Production	7,902,289	5,909,753	6,133,409

From Western Pine Association figures (Idaho White Pine, Ponderosa, Sugar Pine and associated species):

Production Year through Dec.	1945	1946
Production	2,410,474	2,485,765

## SOFT PLYWOOD

	1945	1946
June	121,283	121,412
July	85,579	95,747
August	113,633	126,974
September	89,398	126,974
October	67,014	149,600
November	58,237	129,635

## PULPWOOD

(Pacific Northwest)

(Cords of 128 cu. ft., roughwood basis. Source: Bureau of Census)

	Receipts	Consumption
May, 1946	345,049	229,553
June	426,000	243,703
July	469,472	281,768
August	561,270	239,861
September	520,240	228,672
October	468,312	253,050

## Apparel

Labor supply is the big problem in the California apparel industry. In the San Francisco Bay area, employers are setting up branch plants in San Jose, Santa Cruz, Vallejo, Napa and other smaller cities in hopes of getting enough help. Trained operators have not come West at the same rate the industry has grown, and most employers must depend largely on green help, but the production rate is creeping up. Rayon for linings is the crying need in material. Demand in sportswear shows signs of falling off, because customers are becoming price-conscious again.



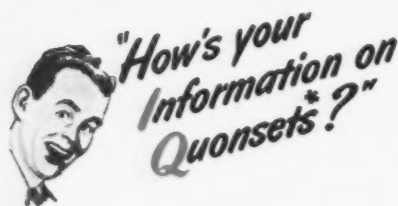
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"Next day, I showed our building committee that the Quonset 24 was the answer to our problem—easily and quickly erected, low in cost, fire-resistant and durable."

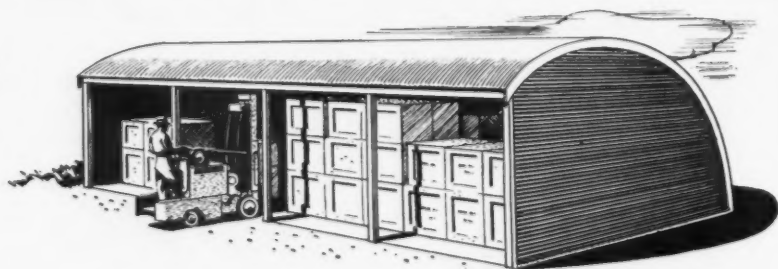


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**South Atlantic** 1,669,000  
**Pacific Coast** 1,519,000  
**East North Central** 1,452,000

**Middle Atlantic** 953,000  
**West South Central** 590,000  
**East South Central** 457,000

**New England** 424,000  
**Mountain States** 247,000  
**West North Central** -61,000

\* Red areas above show which sections will have the greatest labor force growth from 1940 to 1950. South Atlantic, from Maryland and Delaware to Florida, leads, with Pacific Coast second and East North Central (Ohio, Ind., Mich., Ill., Wis.) third. Then come Middle Atlantic (N.Y., N.J., Pa.), West South Central (Okla., Ark. La., Texas), East South Central (Ky., Tenn., Ala., Miss.), New England, Mountain (Mont., Idaho, Wyo., Colo., N.M., Ariz., Utah, Nev.), West North Central (Minn., N.D., S.D., Iowa, Neb., Mo., Kan.)

## PACIFIC COAST HAS FASTEST GROWTH IN LABOR FORCE

**P**REVIOUS indications and predictions that the West is growing at the fastest rate of any part of the country are confirmed by the Bureau of Labor Statistics of the U. S. Government, which cannot be said to be subsidized by any Western chamber of commerce.

By 1950 the West will have an estimated labor force of 7,614,000 people, a gain of 1,766,000 in 10 years.

BLS shows statistically in its December monthly Labor Review that in the 1940-1950 decade the Pacific Coast will lead the country in percentage of labor force gains.

It shows also that the 11 states comprising the West will gain nearly as many workers in actual numbers in that period as the 16 states described by BLS as the North or the 21 states going to make up the South.

Compared to the Pacific Coast's gain of 25 to 45 per cent, seven of the other eight sections into which BLS divides the country will grow more slowly, while the West North Central group, from Minnesota and the Dakotas south to Kansas and Nebraska, will lose from 1 to 5 per cent.

In actual numbers, California's labor

force growth will show the greatest gain in the entire country, more than twice that of its nearest rival, Texas. Its total labor force by 1950 will be the third largest in the nation, surpassed only by New York and Pennsylvania, and will be greater than the entire labor force of New England.

It will have then an estimated labor force of between 4,250,000 and 4,500,000, a level between one-third and one-half above the 1940 figure of 3,000,000, and four times as great as 1910.

The Bureau of Labor Statistics presents three different estimates of the size of the



labor force in 1950, based on varying assumptions as to what is actually happening. These are as follows:

(A) Whatever new interstate migration takes place between 1945 and 1950 will be offset by return of wartime migrants to their prewar states of residence, so that interstate migration in these five years will not affect the net total of the labor force.

(B) The net number of workers who move between states from 1945 to 1950 will be the same as would be expected on the basis of 1935-40 experience.

(C) Net interstate migration of workers between 1945 and 1950 will be equal to that of civilian workers between 1940 and 1945. Migration of workers on this scale in the second half of the decade could come about with considerably smaller population movement than occurred during the first half, because wartime civilian migrants included large numbers of servicemen's dependents and a relatively small proportion of men of working age.

#### Significant Factors

BLS makes no final choice between these three assumptions, but points out two significant factors:

(1) An Army survey in the summer of 1944 showed that one out of every 10 servicemen did not intend to return to the state in which he lived before the war, and that the migration of demobilized servicemen would be expected to follow the pattern of prewar and wartime movements of civilians.

(2) In view of the large volume of unemployment from 1935 to 1940, the migration for that period is probably below par for more prosperous times.

On the other hand, BLS says the capacity of some areas to absorb in-migrants may be glutted, at least temporarily, by the tremendous population inflows during the war. Also, that overexpansion may cause some reverse migration, and a severe depression would slow down the characteristic flow of population from farm to industrial areas.

#### Logical Choice

In view of all these varying factors, it seems logical to accept assumption "B," that the rate of growth will be patterned on the 1935-40 experience, as perhaps the most reliable basis of the three.

Comparative figures of growth from 1940 to 1950, under the three different assumptions previously set forth, are as follows:

	A	B	C
North	3,105,000	2,768,000	2,828,000
South	2,822,000	2,716,000	2,276,000
West	1,323,000	1,766,000	2,146,000

The South's gain in population, as BLS points out, is due to the fertility of the people, rather than in-migration because of greater job opportunities. The West, on the contrary, is an economic magnet and is drawing heavily on the South as well as the North for its population increases.

When the preceding figures are translated into percentages, it becomes apparent that the West's rate of growth is outstripping the rest of the country. These percentages are as follows:

	A	B	C
North	9.51%	8.48%	8.67%
South	17.3	16.66	13.96
West	22.62	30.2	36.69

Of the nine areas into which BLS further segregates the country, the Pacific Coast ranks second in numerical growth, exceeded only by the South Atlantic tier of states. The Mountain states show the smallest actual growth, while one area, as previously noted, is due for a decrease.

Figures for the nine areas, based on BLS assumption "B," that the number of workers who move between states from 1945 to 1950 will be the same as would be expected on the basis of 1935-40 experience, are as follows:

	Growth
1. South Atlantic	1,669,000
(Md., Del., Dist. of Columbia, Va., W. Va., N. C., S. C., Ga., Fla.)	
2. Pacific	1,519,000
(Cal., Ore., Wash.)	
3. East North Central	1,452,000
(Ohio, Ind., Mich., Ill., Wis.)	
4. Middle Atlantic	953,000
(N. Y., N. J., Penna.)	
5. West South Central	590,000
(Ark., La., Okla., Texas)	
6. East South Central	457,000
(Ky., Tenn., Ala., Miss.)	
7. New England	424,000
(Me., N. H., Vt., Mass., R. I., Conn.)	
8. Mountain	247,000
(Mont., Ida., Wyo., Colo., N. M., Ariz., Utah, Nev.)	
9. West No. Central (decrease) —	61,000
(Minn., Ia., Mo., N. D., S. D., Neb., Kan.)	

#### The Losing States

One state in the West, namely, Montana, is due for a decrease in labor force in the present decade, according to BLS. In 1940 it had an estimated labor force of

### ESTIMATED LABOR FORCE, 1940 AND 1945, WITH PROJECTIONS TO 1950

(Projections under three different assumptions [see accompanying text] as to volume of interstate migration.)

	Estimated labor force (in thousands)		Projected labor force, 1950					
	1940	1945	Assumption A		Assumption B		Assumption C	
			Number	Gain from 1940	Number	Gain from 1940	Number	Gain from 1940
U. S.	54,778	65,986	62,028	7,250	62,028	7,250	62,028	7,250
North	32,627	38,619	35,732	3,105	35,395	2,768	35,455	2,828
South	16,303	19,660	19,125	2,822	19,019	2,806	18,579	2,276
West	5,848	7,707	7,171	1,323	7,614	1,766	7,994	2,146
Mountain	1,580	1,848	1,796	216	1,827	247	1,770	190
Montana	233	247	220	—13	215	—18	184	—49
Idaho	198	217	204	6	211	13	181	—17
Wyoming	104	118	113	9	115	11	109	5
Colorado	437	493	477	40	481	44	466	29
New Mexico	184	202	209	25	217	33	188	4
Arizona	187	259	263	76	280	93	303	116
Utah	187	245	245	58	239	52	262	75
Nevada	50	67	65	15	69	19	77	27
Pacific	4,268	5,859	5,375	1,107	5,787	1,519	6,224	1,956
Washington	742	1,028	905	163	944	202	1,022	280
Oregon	470	624	566	96	603	133	636	166
California	3,056	4,207	3,904	848	4,240	1,184	4,566	1,510

NOTE—States included in the North are: six New England states, N. Y., Penna., N. J., Ohio, Ind., Ill., Mich., Wis., Minn., Ia., Mo., N. D., S. D., Neb., Kan. South is composed of: Md., Del., Dist. of Columbia, Va., W. Va., N. C., S. C., Ga., Fla., Ky., Tenn., Ala., Miss., Ark., La., Okla., Texas.



233,000, in 1945 247,000, but the projection for 1950 ranges from a high figure of 220,000 down to 184,000 on the low side, with 215,000 as the most likely figure, a net loss of 18,000 in 10 years.

The largest loss by any one state is shown as Oklahoma, with 57,000. Next are North Dakota, 43,000; Nebraska, 40,000; South Dakota, 39,000; Iowa, 26,000. Vermont also is credited with a prospective loss of 2,000.

In the give and take of population between states, the South and the Great Plains states characteristically have been losers, says BLS, while the West, on the other hand, has been able to draw large numbers of people from other regions of the country, while losing few.

The BLS report includes servicemen as part of the labor force, as well as civilians, but assigns them to the states in which they were inducted. No figures are given in this report to show where the West is drawing most of its gains from, but the Bureau of the Census estimates that there was a civilian migration of 910,000 people from the North to the West between December, 1941, and March, 1945, and 650,000 from the South to the West.

#### Migration Between Regions

This Census Bureau report is as follows, with figures in thousands:

	Total	North	South	West
Migration between regions—				
From North.....	1,550	.....	640	910
From South.....	1,630	980	.....	650
From West.....	400	260	140	.....
Interstate migration in a region....	4,090	1,710	1,610	770
Intrastate migration in a region....	7,540	3,370	3,220	950

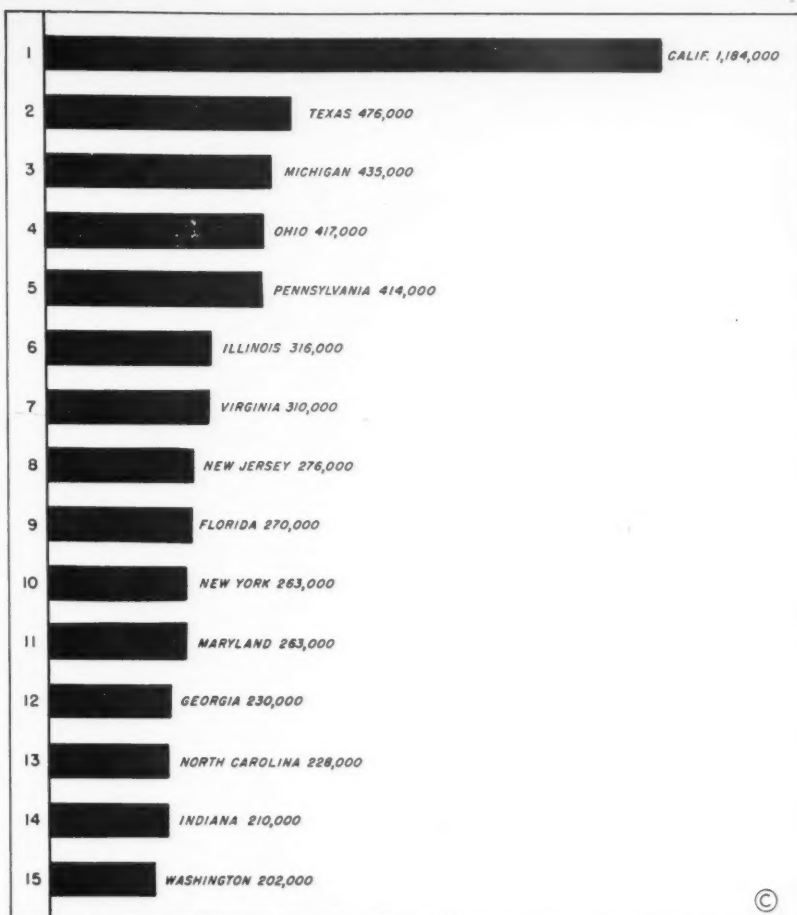
Another gain to the West in addition to the numerical strength is pointed out, in that these newcomers have been carried through the years of childhood and educated elsewhere, an unproductive period in terms of their immediate contribution to the output of the region. Then the West reaps the fruit of this nurture and training. If they have received some work experience elsewhere, then they are still better fitted to be absorbed into the Western labor force without delay or loss.

Of the South's net loss of 500,000 population to the West in the war period, apparently about 165,000 were Negroes. Obviously, then, the total colored addition to the Western labor force was considerably under this figure.

In the BLS report, a detailed survey of the state of Washington is given. It says:

#### Report on Washington

"In response to high wartime demands for labor, the working population of the state of Washington increased by 286,000 between 1940 and 1945 to a total of 1,028,000 (including armed forces personnel from the state). By 1950, the labor



\* By 1950, California will have topped all states in the nation in the phenomenal growth of its labor force, while another Western state, Washington, is No. 15 in the nation. California will have gained 1,184,000 workers by 1950, according to the Bureau of Labor Statistics figures—and this is based on the assumption that the net number of workers who will move into the state during the period of 1945-1950 will be approximately the same as the number expected on the basis of prewar experience. It takes no account of the tremendous number of servicemen and their families who got acquainted with California during the war years and decided to make their homes in the state.

force is expected to number roughly 950,000, which is considerably above the 1940 level of 742,000, though short of the wartime peak.

"Several factors combined to cause the wartime expansion in Washington's work force. Increased participation of housewives, students, retired persons, and others normally not working accounted for approximately 154,000 of the additional workers.

"In-migration of workers from other states resulted in a net gain of another 119,000. This remaining increment of about 13,000 workers is the gain that normally would have been expected from population growth and continuation of prewar trends in the percentage of the population that works or seeks work.

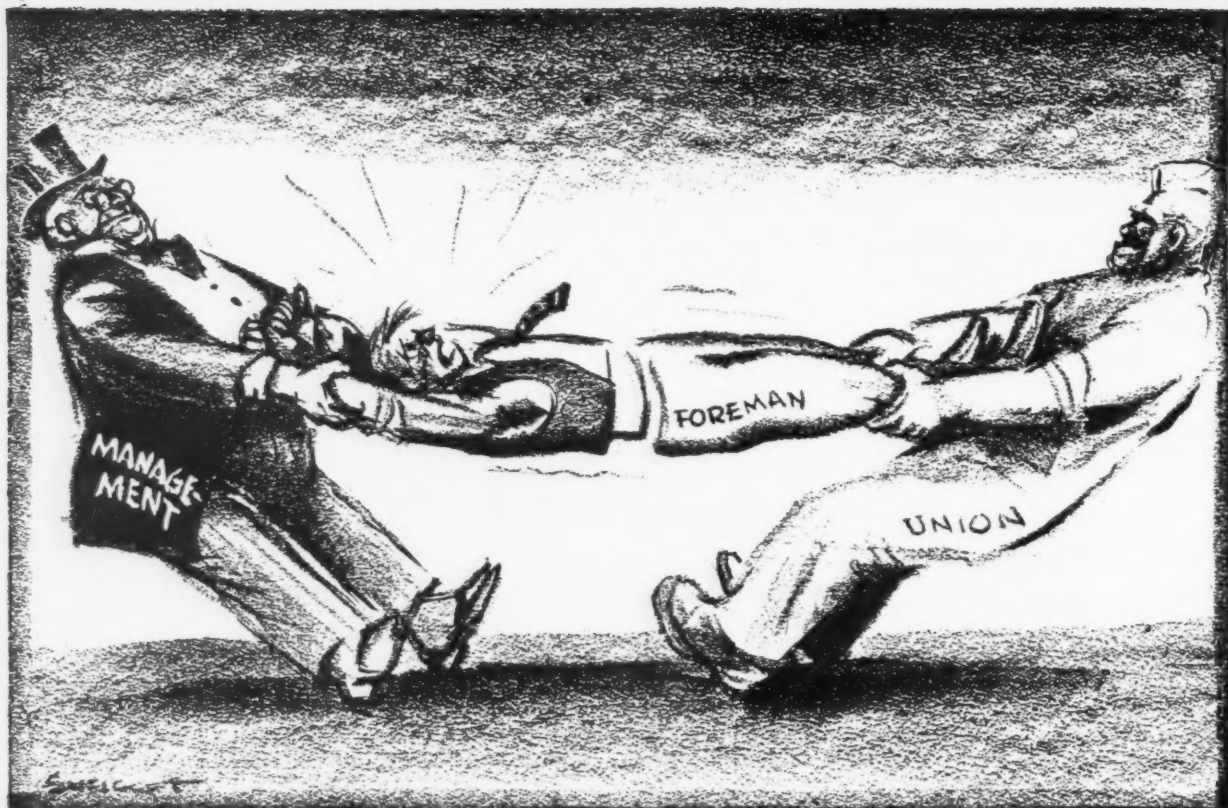
"It is likely that the great majority of the workers who moved to Washington during the war will remain in the state. Washington has typically been an importer of labor. Between 1935 and 1940, the

number of persons moving into the state exceeded those moving out by 80,000.

"This movement was accelerated between 1940 and 1945 as the state gained an additional 273,000 civilians (including the 119,000 workers mentioned above) through in-migration. These forces do not include any members of the armed forces from other states who may have decided to settle in Washington after their discharge.

"Judging from the national experience and prospects, added participation of workers normally outside the labor force will not account for more than 2 or 3 per cent of the 1950 labor force in Washington.

"On the basis of prewar trends, the labor force in Washington would have been expected to increase from 742,000 in 1940 to 843,000 in 1950. It seems likely, however, in view of the increase during the war, that the 1950 labor force will be approximately 950,000."



# FOREMEN . . .

## Mostly Just Pawns For Both Sides

**T**HIS is an attempt to examine objectively the problem of the foreman's relationship to the union with special attention on labor's position or attitude. In so doing, we shall try to be intellectually honest, candid, and forthright.

Readers of this article are warned not to forget that the American labor movement is large, complex, and loosely held together. No one person can honestly profess to speak officially for it in its entirety.

Nor can any fixed position on any subject be applicable to all of the units of organized labor. Sections of labor are just as diverse in their thinking, their attitudes, and their plans as dissimilar sections of business or industry are. The writer makes no claim to officially represent the labor movement.

Concerning the foreman and his relationship to the union, we find on one hand the established craft unions who have historically bargained for the foreman, while on the other hand we find many other unions who specifically exclude foremen from their field of membership. Between these two extremes we find almost every

By A. C. McGRAW  
Regional Grand Lodge Representative  
(Oakland, California)  
International Association of Machinists

variation and combination of opinion as to whether the foreman is "fish or fowl"—friend or foe.

Many signs now indicate that the foreman is on the verge of becoming a pawn in a contest, the "piece de resistance," between management and labor. The die-hards in both camps show signs of being more concerned with a victory over their opponents than in the practical solution of a problem on the basis of facts and good sense. Unless responsible management representatives and responsible labor representatives prevail over their hot-headed comrades, privilege and opportunity for both industry and labor may be destroyed.

The business man or industrial executive who says, "No foreman should ever belong to a union" is just as unreasonable and impracticable as the labor representative who contends that all foremen should

be union members, subject to the same discipline along with the rank and file.

In like manner, the executive who wants the foreman to lead the fight against the union is doing management a disservice, and is as objectionable as the union business agent who wants the foreman as a union member for the purpose of transmitting additional job control and pressure.

### The Foreman Comes First

Let's look at the foreman and his rights, his privileges and his future under several common situations.

But first let's ask ourselves a few questions such as: When is a person a foreman? What are his problems? What would be to his best interest?

The answer to these and similar questions will clearly reveal the practical limits and conditions where the foreman should and will maintain close alliance with his trade union; when the foreman may choose to exercise his right of individual freedom by joining or not joining a foremen's union; when the foreman will of his own accord feel that his best interests

lie with management rather than with labor.

It should be obvious to both management and labor that neither can ignore successfully for any long period of time those things the foreman believes to be his best interest; nor can either management or labor flout the foreman's rights and privileges without paying for it in one way or another.

### The Isolated Foremen

In most old established craft unions the foremen in organized areas and organized industries have been for years members of the union. Frequently, the labor agreement provides for a wage scale for foremen; more frequently the employer was required to select his foremen from among the union members. In some cases, the workmen would successfully take the position that they would not take orders from a person who was not (1) a journeyman of the trade involved, and (2) not a union member.

During the early stages of organization, I believe it fair to say that most local unions regard the foreman as an enemy. Not until the union is firmly established does the foreman find the welcome mat out in the union hall, and then it most likely occurs because of the promotion of some union member known to be loyal and sincere.

The following considerations cannot be ignored by either management or labor. In many cases, one or more of these factors might well determine the best interest of the foreman as an individual; on short time jobs (such as construction work) employing gangs of skilled tradesmen, a person might be a foreman on this job today and a workman on the next job tomorrow. Therefore, the foreman will have a strong common bond of interest with the people working at his trade, and the union will have a strong claim to him as being within its field of membership.

An employer who attempts to break this combination of interest is inviting trouble—perhaps disaster.

Likewise in small shops (such as jobbing shops) employing mostly skilled tradesmen, there exists a strong community of interest between the foreman and those working at the trade. The foreman may not always be a foreman. He will probably want to maintain his union benefits (insurance, death benefits, etc.) as well as his good standing.

Experience shows that the position of the union in this and similar situations varies directly with the degree of organization achieved by the union in the industry and/or the area, and varies also directly with the employers' hostility to the union.

In the two illustrations just given, union's position and attitude will probably tend to crystalize into a formal claim that foremen in these or similar situations (1) should be members of the same union

Mr. McGraw, who prepared the accompanying article at *Western Industry's* request, has been an editor of two Southern California labor papers, *Aircraft Mechanics* and *Aeronaut*, and is a member of the Los Angeles Editorial Association. He has held posts of president, secretary-treasurer, and business agent with his union. At present he represents the IAM in all cases in which it is involved before the National Labor Relations Board. He has also been affiliated with both the UAW-CIO and UAW-AFL. A Southerner by birth, his formal education was augmented by two years at the United States Coast Guard Academy.

with the rank and file, and (2) should be bargained for in the matter of minimum wages.

Anything less than this will make the foreman in these situations neither "fish nor fowl," since he is seldom (if ever) in a policy making position with the management and has little, if any, opportunity for advancement because of the very nature of his job, as well as the kind and degree of business organization most commonly chosen by the owners.

### The "Executive Type" Foreman

In small or medium size manufacturing plants (100 to 2,000 employees) containing distinct departments or divisions, we frequently find foremen as departmental heads. They may or may not have assistants under them; they may or may not be in a policy making position; they may or may not have the unqualified power to hire or fire.

Usually, however, in such plants the working force will be composed of less skilled help and more semi-skilled or unskilled employees than the working force of the "isolated" foreman. It is frequently more important that the departmental heads have the ability to transmit information and directions concerning the work done under their supervision than to be able to perform the work themselves.

The job will also most likely be permanent, and it frequently offers good prospects for advancement to higher positions with management. The business is big enough to keep a carrot (future opportunity) dangling just out of reach and small enough that top management will have personal contact with the foreman and treat him as a favored individual.

Of all the conditions of servitude for foremen, this situation is the strongest for management and the weakest for the unions, insofar as the affections of the foremen are concerned. Without doubt, this is the area of biggest conflict of opinion as to whether these foremen should have the right to organize or not.

Concerning this and similar situations, organized labor has staked out few claims to the foremen and is perhaps less inclined to do battle over them or for them.

Serious questions arise within organized labor as to the value of these foremen as union members. Usually, these foremen are specifically excluded from collective bargaining units and from labor agreements.

Little evidence exists that organized labor as such is seriously and consistently contending for foremen of this description and type to be included in the same bargaining unit with the rank and file members of the union. Little evidence exists that foremen of this type are susceptible to organization into appropriate units of foremen for the purpose of collective bargaining in any form.

### The "Gregarious" Foreman

This type is the product of mass production industries having usually a baffling hierarchy of supervision in which the individual foreman is only a small cog in a huge gear chain. There are so many foremen of this type in one company or in one industry that the community of interest between foremen overshadows the bond of interest with the rank and file union members and/or the bond of interest with management.

Most labor unions organizing on industrial or vertical lines have shown keen interest in encouraging union membership among these supervisory employees. Three methods have been used, i.e., (1) including them among rank and file members, (2) organizing them into separate locals of a common parent union, (3) and organizing them into separate and/or independent unions of foremen only.

A real contest seems to be beginning between the latter two methods with the verdict to be determined later, since successful examples of each method exist in about equal numbers. Union position and thinking cannot be said to have crystalized yet as to which method is preferred.

If the unions do not lose sight of the best interest of the foremen, the method of organizing separate locals under a parent international union for the industry will probably prevail. Should organized labor ignore the foremen's interests while they are used as pawns in a game of economic pressure, the success of the independent foremen's union will be guaranteed and hastened.

Management's position and thinking appears to favor the denial of the right to organize this type or group of foremen as a solution. If management pressure continues to deny foremen the right to self organization, they will guarantee and hasten the organization of foremen by the labor unions representing the rank and file.

If management attempts to use the foremen as their shock troops to fight legitimate organization and collective bargaining by the rank and file, then the labor movement must in self-defense and for self-preservation either organize the fore-



men as an ally or eliminate them as an enemy.

In either event the cost to our national economy will be tremendous. Business will become disorganized, unprofitable, and impotent with productivity at an all-time low. Should labor be forced into the position of considering the foreman as an enemy to be eliminated, industrial activity might well reach a chaotic condition.

#### Labor's Historical Position

Historically, the labor movement owes its birth to the abuses of management. It came into being essentially as a defensive organization with social and economic objectives as goals towards which to work.

Through the years its defensive character has not been lost, even though it has been militant and aggressive in its efforts to raise the standard of living for all who work for a living.

Management has nearly always established its position first and labor has then determined its course, frequently with an attitude of retaliation coupled with a desire to correct and improve.

The foregoing observations and comments are by no means complete, nor can they represent all the varied conditions of this complex subject. They are offered for the purpose of stimulating thought and encouraging intellectual honesty.

The International Association of Ma-

chinists with over 1,600 local lodges, 600,000 members and 8,000 labor agreements with employers, has had much and varied experience with the problem of foremen "in the union" for years. It is our considered opinion that no fixed or rigid position can be taken or maintained with respect to the foremen. "Circumstances alter cases."

We urge management and labor alike to face the facts—all the facts in each situation — and by collective bargaining establish the relationship of the foreman to the union based on the facts, but ever mindful that whoever ignores and disregards *the best interest of the foreman* will in the long run lose.

## Utah Process for Treating Coal Reaches Commercial Stage

**L**OW temperature distillation of coal by processes designed to suit Western coals and economic conditions is being undertaken on a commercial scale for the first time.

A pilot plant for this purpose, with a daily capacity of 50 tons of raw coal, is being built at North Salt Lake City. If the process is successful in commercial application, it opens the possibility for the West to make greater use of its relatively untouched coal deposits, to eliminate smoke from cities and to produce industrial coke from Western coals that will compete in quality and price with Eastern coke.

Construction of the plant was begun under contract between the State of Utah and the Coal Logs Company, and the process is the one invented by K. L. Storrs, president of the company. Chief engineer of the company is George W. Carter, a professor at the University of Utah and formerly chief fuel research engineer for the Utah Conservation and Research Foun-

dation. The two men worked out the details of the process together.

The State of Utah investigated the process for two years, calling in advisory engineers to pass upon it. A smaller low temperature carbonization plant was built and operated at the University of Utah, and construction of the larger pilot plant followed. Operating plans for the latter will depend on future financing arrangements now under discussion.

#### First—Low Temperature Production

Up to the present time efforts have been concentrated toward the perfection of the first and fundamental step, that is, low-temperature production. For this reason only low-temperature coke and liquid by-products will be made in the pilot plant. Sufficient studies have been completed to indicate the feasibility of making high-temperature coke, and further attention will be given to this aspect upon completion of the North Salt Lake plant.

Besides these radical types of coke, other solid products will be low-temperature smokeless fuel in granular form, suitable for use in domestic and industrial stokers, and electrode carbon material for the aluminum industry, made from crushed coal which has previously been treated to reduce the sulphur and ash contents substantially.

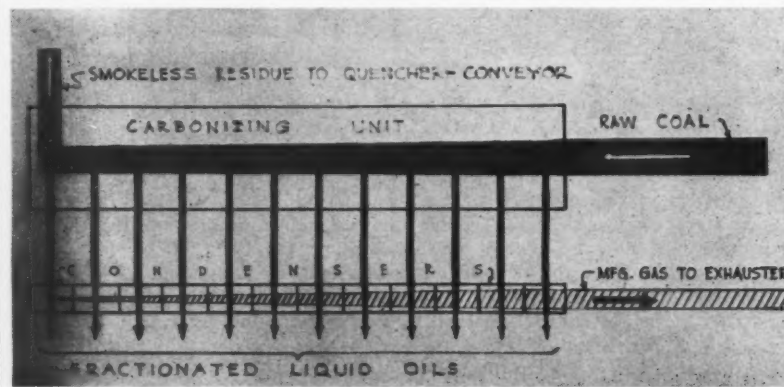
Coal technologists long have realized that the rapid transfer of heat represents the key to economical distillation of coal at low temperatures. The coal logs processes meet this requirement for the first time. The unusual rapidity of heating results directly from agitation of the coal by vibration. Every particle of coal, thus constantly moved to receive heat uniformly to its entire surface, is quickly and homogeneously treated.

Another objective sought by low-temperature enthusiasts is the production of strong and coherent solid smokeless fuel from non-coking bituminous coals. Common practice is to either blend these natural fuels with coking coals or to add a binder. The coal logs methods do not require blending or binders, but take advantage of the natural cementing materials present in most bituminous coals.

Most Western bituminous coals are of the non-coking variety, and the few beds of coking coals do not alone produce a satisfactory high-temperature coke when made in existing by-product coke ovens. Potentialities for the use of these Western raw materials is evident. In addition, there are extensive Western sub-bituminous coals and lignites which can be economically utilized to produce low-temperature char and by-product tars.

The primary carbonizing unit operates at relatively low temperatures and in an atmosphere substantially excluded of air. The furnace design permits ready removal

FLOW SHEET OF COAL-LOGS PROCESS FOR LOW TEMPERATURE CARBONIZATION OF COAL





and replacement of the inexpensive retort which carries the coal. These conditions dictate the use of mild steel as the most economical material for this unit at present. Another unique development of economic significance is the efficient condensation of vapors without need of cooling water.

In general, low-temperature carbonization of typical Western coals yields from 20-40 gallons of coal-tar per ton of raw material. Secondary decomposition of the vapors within the retort is kept to a minimum, thereby producing somewhat greater yield of coal-tar rather than an increased production of high Btu fuel gas.

The Coal Logs processes permit the continuous heat treatment of coal in two steps to produce both low-temperature and high-temperature cokes. A thin layer of coal is covered by a vibration means while being thoroughly agitated over a heated surface within a horizontal rectangular retort. The travel is timed and controlled so that immediately upon reaching the desired finishing temperature, it is dropped into an extrusion and/or conveyor unit.

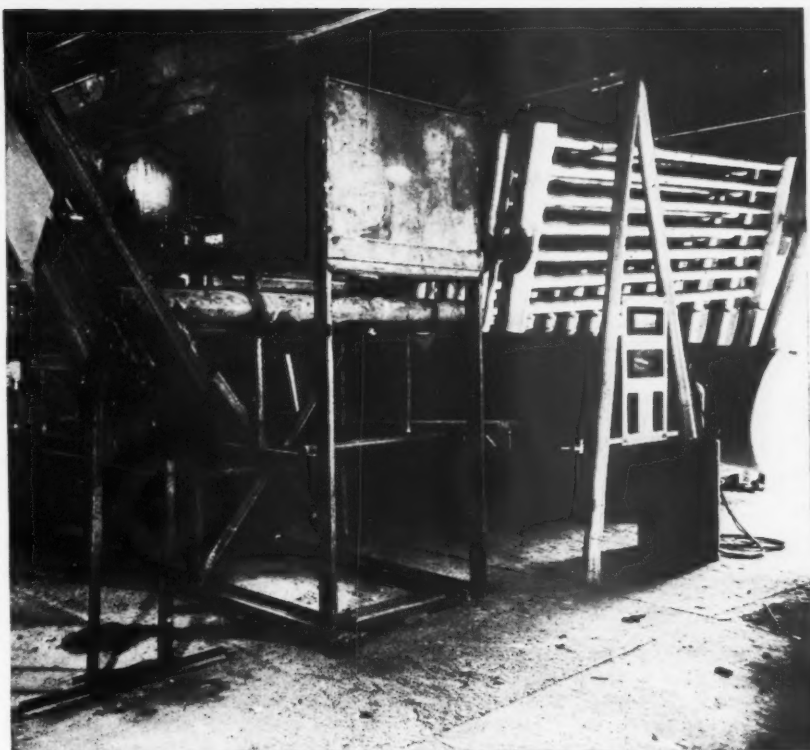
For the manufacture of granular low-temperature coke for domestic and industrial applications, the finishing temperature is above that necessary to produce a plastic or semi-plastic semi-coke. In another application the finishing temperature is that required to produce a plastic or semi-plastic condition of the semi-coke, and in this case the extrusion unit continuously molds the plastic or semi-plastic material into a solid structure of cylindrical form, thereby producing a molded smokeless low-temperature coke. The extrusion unit is similar to the ordinary sausage worm and provides the means for continuously extruding the plastic coal through a mold of uniform diameter.

### High Temperature Coke

For the manufacture of high-temperature coke the solid low-temperature material coming from the extrusion unit is conveyed through another furnace in which it rises progressively in temperature to any desired finishing temperature at the discharge end, this temperature in normal operations varying from 1700° to 2000° F.

In both the low- and high-temperature carbonizing units the constant rise in temperature of the coal itself creates separate and distinct zones of volatile release along the path of travel of the material being treated. Withdrawal pipes are provided to educt desired volatile fractions directly from the retort continuously as the separate volatile fractions are released.

The primary products, being either the molded high- or low-temperature coke, normally are produced in cylindrical form, and are known under the trade name "Coal Logs." These products can be produced with varying percentages of volatile matter. For the low-temperature product the



\* Interior view of plant showing carbonization furnace, with condensing system at right. In left foreground is elevator for conveying solid finished product to the hoppers above the railroad cars. Photo taken before the conveyor was covered or the extrusion means added. Plant designed for 50 tons a day, but findings show it will treat upwards of 100 tons of raw coal in 24 hours. Total floor area is 35 x 45 feet.

volatile content from Utah coals will vary from 18 to 22 per cent, and for the high-temperature products the volatile content can be reduced to as low as 2 per cent. These products are strong, coherent, and homogeneous, with the low-temperature fuel igniting as readily as raw coal.

Liquid by-products are obtained by condensation of the volatile matter educted in a multiplicity of withdrawal pipes from the carbonizing furnace. This system produces for the first time in the history of the art, separate and distinct fractions of coal oils. Each of the liquid fractions differs from the others both as to chemical and physical properties, and moreover is not the same as the conventional low- and high-temperature tars produced today. The Coal Logs people believe that this new and revolutionary method of fractionating the coal tars directly from the retort represents not only a great stride in the progress of the art but also will make possible a substantial increase in the economic value of the liquid by-product.

Another important development is the condensation of these volatiles from the vapor state without the use of cooling water. Ninety per cent of the liquid by-products are obtained within the first three feet of the withdrawal pipes emanating from the retort. This radical condensing system results in a tremendous reduction

in investment cost and also makes it possible to incorporate the condensing system and the carbonizing unit for a 100-ton per day plant in a 300 square foot floor surface.

### Easy to Make at Low Cost

Advantages claimed for the Coal Logs process are that it is revolutionary in speed of production, that the cost of plants is very low compared to other plants producing coke and by-products, and that the liquid tars are separated automatically into distinct fractions instead of being produced as one product.

It is asserted that 40 per cent volatile coal can be carbonized to produce low-temperature coke containing from 18 to 22 per cent volatile in approximately one minute, and that high temperature coke can be obtained in approximately 15 minutes, compared with 16 hours for beehive coke ovens and 1.9 hours for by-product ovens.

Any coal having a suitable plasticity, it is stated, whether coking or non-coking or even of the swelling variety, can be used for the manufacture of both high- and low-temperature Coal Logs, and that any coal regardless of plasticity can be used to manufacture granular semi-coke. In addition, slurry from coal washing plants and other waste coal can be utilized efficiently.

# Gear Hobbing Know-How Will Save Western Plants Much Grief

**D**URING the war years, the West Coast gear industry expanded steadily until all types of gears—small gears for aircraft and for precision instruments, large gears for marine drives, etc. — were being manufactured all the way from Seattle to Mexico.

Today, when more-or-less normal competitive conditions again prevail, the gear industry here is supplying much of the needs of our rapidly expanding West Coast manufacturers of mechanical consumer and industrial products.

Hobbing — modern hobbing — is of course the most important single process in gear manufacture. This article has been written to point out some of the more important factors which should be considered when hobbing in order to produce better and more accurate gears.

## General

Even though modern precision tools are used, there are still many ways in which errors can get into gears and make them noisy—and noisy gears are invariably inaccurate gears. For example, the steel from which the gears are made may have been improperly handled during the forging and/or the heat treating operations; either the machines or the generating tools may have been inaccurate; or the operators may have been careless.

Time after time, also, experience has demonstrated that failure to adhere strictly to the fundamental laws of gearing is the cause of noisy gears.

## Generating

The increments of cuts as a hob generates a gear tooth are shown in Figure 1.

By PETER STARMAN  
Demco Tool Service, Los Angeles

Note that the involute is generated by the successive contact of a number of hob teeth in the generating plane.

To obtain the greatest tool life for production cutting, the last point of contact that a gear has with a hob tooth and the last cutting position at which a hob may be set and still obtain full generating action, may be calculated as shown in Fig. 2.

## Modifications

The involute gear as it is made today has a modified involute tooth form. Hobs have to be designed to form these modifications (or "approach curves" as they are sometimes called) without breaking the arc of contact with mating gears.

A formula showing how to find the start of modification on a hob for a known modification on the gear is given in Figure 3. Care should be taken not to modify gear teeth excessively, however, since modification of the involute form reduces the amount of involute over-lap and therefore the number of teeth in contact.

After these calculations have been completed, a hob must then be made which will correctly generate the modified involute. The contour must be correct on all of its cutting teeth. All teeth must follow the true helical path and all cutting edges must be concentric.

## Hobs and Hob Steels

Obviously, a necessary requirement for the production of accurate gears is an

accurate hob. The best gear design, manufacturing equipment, and procedure will not prevent errors which originate in inaccurate or faulty hobs.

In this connection, an important item to check—sometimes overlooked—is the macrostructure of the steel from which the hobs are made. Freedom from carbide segregation in the gear cutting tool steel is essential for optimum performance of the finished hobs. Segregated carbides are points of weakness in any tool. Eliminating them gives:

1. Better heat treat results; stronger tool body and cutting teeth; freedom from weak spots.
2. Better sharpening; less chance of minute chips breaking out; less stock removal; more grinds per tool.
3. Smooth cutting action of the hob; no jagged edges.
4. More pieces per grind with cutting edges holding up longer.

It will be found well worthwhile for any manufacturer to check his supplier with regard to the steel used in his hobs to see that they are free from carbide segregation.

## Types of Hobs

Selection of the correct *type* of hob for a particular operation — whether for the cutting of gears, splines, threads, serrations, or other forms — is of the greatest importance since *type* has a direct bearing on the question of cost per piece. At present, hobs are generally furnished in three distinct types — for roughing, for semi-finishing, and for finishing.

For roughing operations, where a high degree of accuracy is not so important, unground hobs may be used. Ground hobs should always be used for either semi-finishing or finishing.

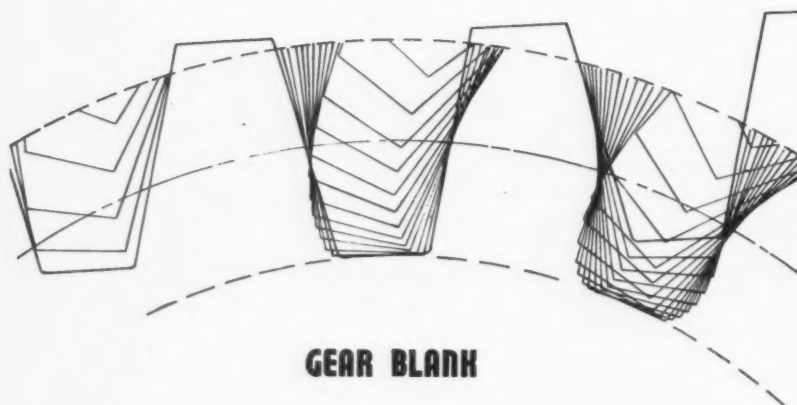
Frequently, hobs are used for semi-finishing gears prior to gear "shaving." Gear shaving is a finishing method which is coming to be used more and more in the general production of accurate gears, splines, etc., because of its speed, accuracy and low cost.

Ground hobs that are produced to "B" tolerances give excellent results prior to shaving. These "Class B" tolerances, although differing by only a few ten-thousandths of an inch from major "Class A" tolerances, do permit lower hob costs. The differences in the cut gears produced by these two classes of hobs are too small to affect the finish "shaving" process.

Hobs for finishing operations should be finish ground after heat treatment. This eliminates many potential causes of inaccuracy in the finished work. Most important of these potential causes of in-

Figure 1

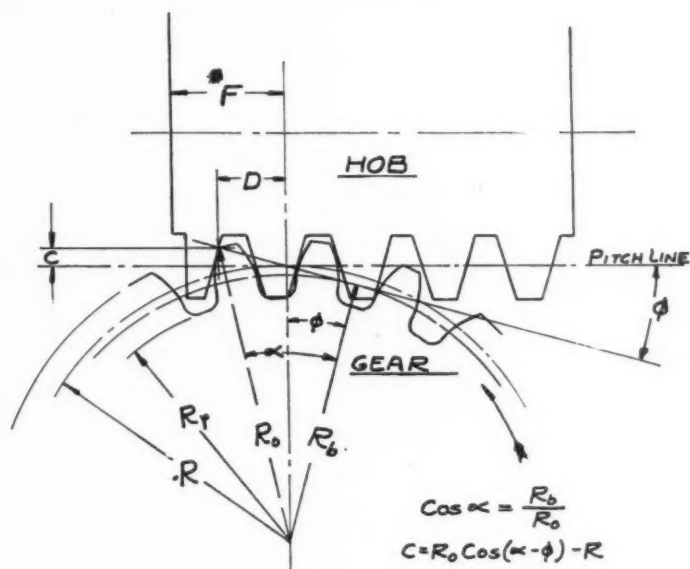
**HOB**



**GEAR BLANK**

Figure 2

TO FIND THE EXTREME END POSITION FOR SETTING A HOB WHEN CUTTING SPUR GEARS.



$R_b$  = BASE RAD.  
 $R$  = PITCH RAD.  
 $R_o$  = OUTSIDE RAD.  
 $C$  = DISTANCE BELOW PITCH LINE  
 ON HOB TO LAST POINT OF CONTACT  
 $\phi$  = PRESSURE ANGLE

\*F MUST BE SUBSTANTIALLY LARGER THAN D TO PROVIDE PROPER STRENGTH OF LAST TOOTH

$$\cos \alpha = \frac{R_b}{R_o}$$

$$C = R_o \cos(\alpha - \phi) - R$$

$$D = R_o \sin(\alpha - \phi)$$

accuracy are: (1) Inaccurate lead or "drunkenness" of thread, and inaccurate tooth form which contributes to noise in gears, poor spline fits, etc.; (2) lack of keenness in cutting edges and non-uniform relief, resulting in decreased production, lack of smoothness, and accelerated hob wear; and (3) premature dullness of hobs due to the "soft film" or decarburized surfaces that result from certain hardening operations.

It is sometimes the practice to take a rough and then a finish cut when hobbing coarse pitches. This gives greater accuracy. Single, double, and triple-thread under-ground hobs are used for the roughing operation. Use of hobs having more than three threads seldom results in any economies. The additional cost and the necessarily larger tolerances demanded by such hobs will usually more than offset the time they save in cutting. Furthermore, the quality of the finished product will generally be impaired.

#### Setting Up Hobs

Proper hob setting is extremely important, both for obtaining maximum efficiency

from the hob, and for producing accurate gears. Obviously, the first consideration in hob setting-up is the fit of the hob on its arbor. There should be no play. If there is, the hob may shift while it is cutting. Any shifting of the hob will ruin the most careful set-up.

When clamping the hob on the arbor, use the least number of spacing collars possible. The outer bearings should be in place before the wrench is applied to the clamping nut. If this is not done, the arbor may spring out of line. This will cause eccentricity in the hob mounting, which in turn will result in an inaccurate product.

An indicator—graduated in ten-thousandths of an inch—should be used to check the hub or proof diameters. An indicator graduated in thousandths of an inch, or even in half-thousandths of an inch, is not accurate enough for the checking of modern hob mountings.

Run-out should be within .0002", and the high points of the run-out are opposite on the two ends of the hob.

In case the run-out of the hub diameters exceeds the desired limit, it can easily be

corrected by loosening the clamping nut, rotating the spacing collars, and then re-clamping. The slight errors in parallelism of the faces of the collars are thereby utilized to bring the hob into correct alignment.

It may be necessary to repeat this process a few times before the hob performs satisfactorily. With a little practice, however, an operator should be able to true up a hob in a few minutes. This is one of the most important parts of hob setting. It will be found that any extra time which may be needed in truing up a hob will be more than paid for by the results obtained.

#### Trial Cuts

To select the best position of the hob in relation to the gear blank, the cutter should first be set approximately central with the blank. If the helix is high, the hob should be offset from the central position to employ more cutting teeth towards the lower end. A trial cut should now be made, either on a gear or on a dummy cast iron blank.

Hobbed dummies of smaller size may also be used for involute and speeder tests as a trial check prior to hobbing of large gears. The number of teeth in the dummy representing the gear should not be too low, preferably not under 50, except in the larger pitches. The helix angle should preferably be the same as that of the gear it "represents."

In checking for errors in involute form, the gear or dummy should be checked to see if it is within the desired limits. The sample should also be inspected to see whether the gear or dummy is off balance—that is, if it "leans" one way or another. If the gear or dummy is found to be unsatisfactory, the hob should be shifted axially a few thousandths of an inch either way. The trial cut should then be repeated.

When shifting the hob axially, the entire cutter spindle unit is moved by turning the nut provided for that purpose. This makes it unnecessary to disturb the setting of the hob on the arbor. If, after several trials, a satisfactory tooth form has not been attained, the hob should be shifted to utilize an entirely different portion, one or more convolutions away.

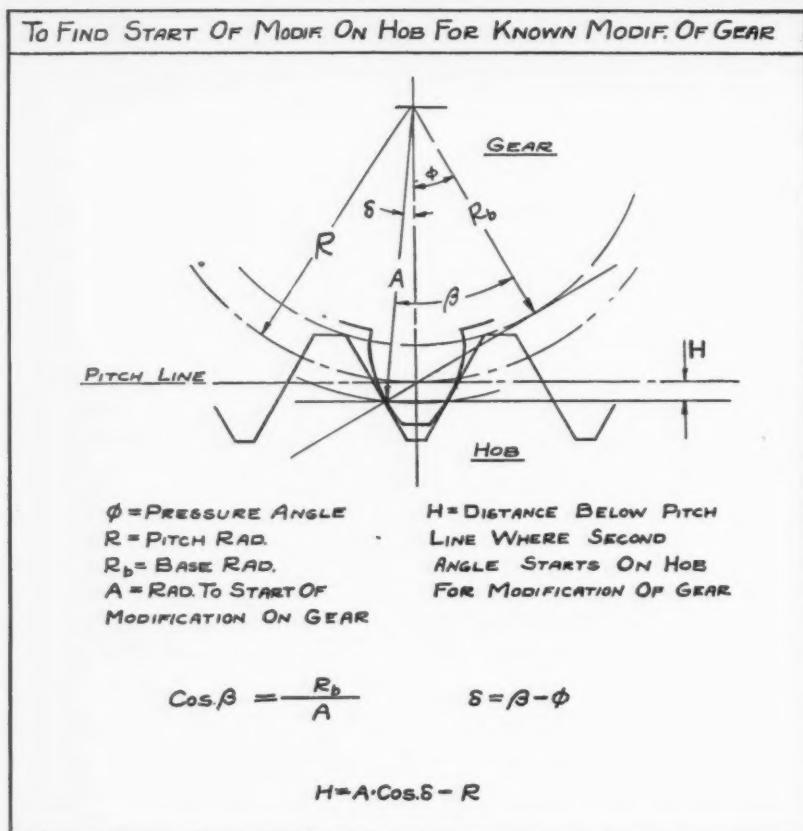
If the mating pinion is to be cut on another machine, it is usually desirable to set it up at the same time and to make similar trial cuts. Then the pair of trial gears or the dummies—whichever is being used—should be mounted on centers or on a speeder at the proper backlash; coated with red lead; and rolled to show the tooth bearing. In mounting, care should be taken to have the profile of the dummies contact in the same relation as in the final gear assemblies.

#### Maximum Precision

When precision gears are required, it is absolutely essential to use accurately manufactured hobs. It is equally important to be sure that the hob is mounted cor-



Figure 3



rectly on the machine, since *incorrect mounting* will offset the accuracies built into the hob by precision manufacturing methods. Furthermore, the hob must be properly re-sharpened (see section immediately following on HOB SHARPENING) so that it will retain its precision throughout its production life, thus assuring continued accuracy of product.

Hobs should be kept properly sharpened for:—

1. Economy: A sharp hob will cut faster; use less power; produce more pieces during its life.
2. Better Work: A sharp hob will produce more accurate work, with a finish far superior to that obtainable from a hob not in first-class condition.

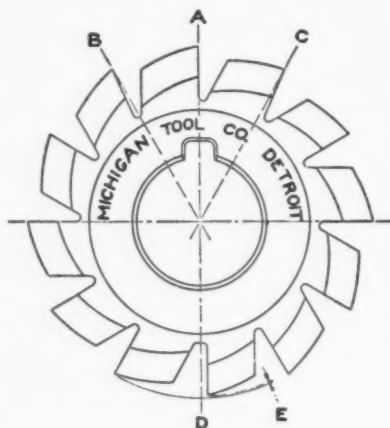
A hob sharpening machine can spoil a good hob if it does not sharpen it concentrically. It is recommended that a bevel and concave wheel be used for sharpening, medium grain and of soft grade—yet hard enough to eliminate flying grit. The wheel should be kept clean since a glazed wheel may crack the hob teeth. When grinding, too much metal should not be removed at one time with the wheel, since this causes excessive heat and check marks in the hob teeth.

A correctly sharpened hob tooth is shown at "A" in Figure 4. This has neither

of the common errors depicted at "B" and "C." When a hob tooth is ground with an undercut, as in "B," it will cut into the work too deeply. When a tooth is ground ahead of center, as at "C," the tooth has a tendency to drag over the work. Either of these errors will produce an incorrect form and should be carefully avoided.

Correct flute spacing should be maintained when re-sharpening hobs. If some of the hob teeth are ground farther back

Figure 4



than others (as "D" in Figure 4) it will cause a reduction in tooth height as shown at "E." In such a case, the major burden of cutting the gears will be thrown on the remaining teeth. This means not only faster wear of the hob, but also irregularity of cutting action. It also means that the form of the gear teeth cut with such a hob may not be the same on both sides.

Special hobs made with a hook can be satisfactorily sharpened provided that the amount of hook—as marked on the hub—is carefully maintained.

### Feed and Speeds for Hobbing

Running hobs at the proper speed is fully as important as mounting the hobs properly. The highest cutting efficiency cannot possibly be obtained from hobs that are run either too fast or too slow. However, conditions governing choice of appropriate speeds and feeds for hobbing—including such factors as type of material being machined; hardness and physical properties of the material; accuracy and smoothness of finish required; etc.—are so many and varied that it is impossible to give specific recommendations which can be relied upon to produce the best results in every case.

Any recommendations given cannot be applied universally to all classes of work, nor can such recommendations be followed indiscriminately without careful consideration of the peculiar requirements of each different job. By far the best basis for determining suitable feeds and speeds is judgment gained from past experience in the operation of hobbing machines. It may be supplemented wherever necessary by actual production experiments, until a result has been obtained which gives a satisfactory quality of work combined with the most economical rate of production.

Tables of suggested hobbing feeds and speeds are shown in Figures 5 and 6. These tables are mainly guides as to what may be considered present day average practice for hobbing spur gears and shafts. Feeds generally should be modified somewhat from this for helical gears, depending upon the angle of the teeth.

Multiplying the speed selected for a spur gear of corresponding size by the cosine of the angle of the helix will give a good approximation of the equivalent feed to be used when cutting a helical gear. A useful table for rapidly converting cutting speeds to RPM for different size hobs is given in Figure 7.

### Errors Add Up

The composite effect of errors in the hob teeth is an important element influencing tooth form. Even though the most accurately ground hob obtainable is used—the errors in which may be well within .0002" for form, tooth spacing, and weave—the combined effect of these errors may affect the form by several times the amount of the individual hob tooth errors.

Suppose, for example, that a hob has



60 teeth. Suppose, too, that when producing a certain gear, 25 of these teeth make up the cutting zone. Of these 25 teeth, perhaps 10 serve as roughing teeth only. The remaining 15 teeth actually generate the tooth form. Each of these 15 teeth will form a portion of the involute curve (refer to Figure 1).

Although each tooth, individually, may be accurate, errors in spacing will cause certain teeth to cut too much on one side and not enough on the other. This condition will modify the involute considerably. It may appear that, with 15 teeth in the generating zone, a wide departure from the true involute is possible. Although such a departure *can* take place, in actual practice the errors generally cancel out one another to a large extent. However, it should be remembered that such a situation *can* arise.

By shifting a hob axially, different sets of hob teeth can be made to comprise the generating zone. Thus, by careful selection, one or more best positions of a given hob can be picked out when cutting a gear of a given number of teeth.

#### Machine Conditions

The hobbing machine should be in good mechanical condition at all times. Ways and bearings must be accurately adjusted. In addition, cumulative errors in the index and feed gears—and also in the lead screw—will affect the accuracy of the piece being hobbled. It will also be found advantageous, every so often, to check the angular velocity of the hobbing machine with instruments developed for this purpose.

(Continued on page 52)

Figure 5

#### Approximate Feeds and Speeds for Hobbing Spur Gears

MATERIAL	FINISHING		ROUGHING		ROUGHING	
	6 to 16 Diam. Pitch, Single-Thread Hob		6 to 16 Diam. Pitch, Single-Thread Hob		6 to 16 Diam. Pitch, Double-Thread Hob	
	Feed per Rev. of Work, In.	Speed FPM	Feed per Rev. of Work, In.	Speed FPM	Feed per Rev. of Work, In.	Speed FPM
Fiber .....	0.060 to 0.120	130				
Rawhide, micarta, etc.....	0.060 to 0.120	120				
Soft brass .....	0.060 to 0.120	180				
Malleable iron, soft cast iron	0.060 to 0.100	110				
Hard brass, bronze.....	0.050 to 0.090	100				
Semisteel .....	0.050 to 0.090	90				
Low-carbon machinery steel....	0.045 to 0.075	120	0.090 to 0.120	120	0.075 to 0.100	120
0.35-0.45 carbon steel.....	0.040 to 0.060	100	0.075 to 0.090	100	0.070 to 0.080	100
Case-hardening alloy steel.....	0.040 to 0.060	100	0.075 to 0.090	110	0.070 to 0.080	100
0.45-0.60 carbon steel.....	0.040 to 0.050	90	0.065 to 0.075	90	0.060 to 0.070	90
High-carbon alloy steel.....	0.030 to 0.045	60	0.045 to 0.060	60	0.040 to 0.055	60

Figure 6

#### Approximate Feeds and Speeds for Hobbing Spur Gears

MATERIAL	FINISHING		FINISHING		ROUGHING	
	12 to 32 Diam. Pitch, Single-Thread Hob		12 to 32 Diam. Pitch, Double-Thread Hob		12 to 32 Diam. Pitch, Double-Thread Hob	
	Feed per Rev. of Work, In.	Speed FPM	Feed per Rev. of Work, In.	Speed FPM	Feed per Rev. of Work, In.	Speed FPM
Fiber .....	0.050 to 0.100	150	0.040 to 0.070	150		
Rawhide, micarta, etc.....	0.050 to 0.100	150	0.040 to 0.070	150		
Soft brass .....	0.050 to 0.080	200	0.040 to 0.065	200		
Malleable iron, soft cast iron....	0.050 to 0.070	120	0.040 to 0.060	120		
Hard brass, bronze.....	0.045 to 0.065	100	0.035 to 0.050	100		
Low-carbon machinery steel....	0.040 to 0.060	120	0.035 to 0.045	120	0.060 to 0.075	120
0.35-0.45 carbon steel.....	0.035 to 0.050	100			0.050 to 0.065	100
Case-hardening alloy steel.....	0.035 to 0.050	100			0.050 to 0.065	100
0.45-0.60 carbon steel.....	0.035 to 0.045	90			0.040 to 0.055	90
High-carbon alloy steel.....	0.025 to 0.040	60			0.030 to 0.045	60

Figure 7

### CUTTING SPEEDS

Diam. Inches	FEET PER MINUTE																			
	15	20	25	30	35	40	45	50	55	60	65	70	80	90	100	110	120	130	140	150
	REVOLUTIONS PER MINUTE																			
1/4	229	306	382	458	535	611	688	764	840	917	993	1070	1222	1375	1528	1681	1833	1986	2139	2292
3/8	153	204	255	306	357	407	458	509	560	611	662	713	815	917	1019	1120	1222	1324	1426	1528
1/2	115	153	191	229	267	306	344	382	420	458	497	535	611	688	764	840	917	993	1070	1146
3/4	92	122	153	183	214	244	275	306	336	367	397	428	489	550	611	672	733	794	856	917
1	76	102	127	153	178	204	229	255	280	306	331	357	407	458	509	560	611	662	713	764
1 1/4	65	87	109	131	153	175	196	218	240	262	284	306	349	393	437	480	524	567	611	655
1 1/2	57	76	96	115	134	153	172	191	210	229	248	267	306	344	382	420	458	497	535	573
1 3/4	51	68	85	102	119	136	153	170	187	204	221	238	272	306	340	373	407	441	475	509
2	46	61	76	92	107	122	138	153	168	183	199	214	244	275	306	336	367	397	428	458
2 1/4	42	56	70	83	97	111	125	139	153	167	181	194	222	250	278	306	333	361	389	417
2 1/2	38	51	64	76	89	102	115	127	140	153	166	178	204	229	255	280	306	331	357	382
2 3/4	35	47	59	71	82	94	106	118	129	141	153	165	188	212	235	259	282	306	329	353
3	33	44	55	66	76	87	98	109	120	131	142	153	175	196	218	240	262	284	306	327
3 1/4	31	40	51	61	71	82	92	102	112	122	132	143	163	183	204	224	244	265	285	306
3 1/2	29	38	48	57	67	76	86	96	105	115	124	134	153	172	191	210	229	248	267	287
4	25	34	42	51	59	68	76	85	93	102	110	119	136	153	170	187	204	221	238	255
4 1/4	23	31	38	46	54	61	69	76	84	92	99	107	122	138	153	168	183	199	214	229
4 1/2	21	28	35	42	49	56	63	70	76	83	90	97	111	125	139	153	167	181	194	208
5	19	25	32	38	45	51	57	64	70	76	83	89	102	115	127	140	153	166	178	191
5 1/4	16	22	27	33	38	44	49	55	60	66	71	76	87	98	109	120	131	142	153	164
5 1/2	14	19	24	29	33	38	43	48	53	57	62	67	76	86	96	105	115	125	134	143
6	13	17	21	26	30	34	38	42	47	51	55	59	68	76	85	93	102	110	119	127
6 1/4	12	15	19	23	27	31	34	38	42	46	50	54	61	69	76	84	92	99	107	115
6 1/2	10	14	17	21	24	28	31	35	38	42	45	49	56	63	70	76	83	90	97	104
7	9	13	16	19	22	26	29	32	35	38	41	45	51	57	64	70	76	83	89	96
7 1/4	8	11	14	16	19	22	25	27	30	33	36	38	44	49	55	60	66	71	76	82
7 1/2	7	10	12	14	17	19	22	24	26	29	31	33	38	43	48	53	57	62	67	72
8	6	9	11	13	15	17	19	21	23	26	28	30	34	38	42	47	51	55	59	64
9	5	8	10	12	13	15	17	19	21	23	25	27	31	34	38	42	46	50	54	57
10	5	7	9	10	12	14	16	17	19	21	23	24	28	31	35	38	42	45	49	52
11	4	6	8	9	11	13	14	16	18	19	21	22	26	29	32	35	38	41	45	48

### Checking Hobs

All re-sharpened hobs should be checked for accuracy. Accurate checking equipment, designed solely for the purpose, is essential. Good examples of test fixtures which can be employed to control the accuracy of re-sharpened hobs—based on the fundamental laws of gearing—are the so-called "Sine-Line" checking machines designed and produced by Michigan Tool Company. This type of checking equip-

ment is proving to be of outstanding value to hob users for controlling the hob sharpening operation. The checking fixtures indicate how closely the hob approaches the ideal conditions, as well as what may be expected of the hob in the way of producing accurate—and therefore *quiet*—gears.

Deviation of hob teeth from the true helical path and active hob profiles can be checked to one ten-thousandth of an inch by use of "Sine-Line" hob lead check-

ers. When checking a hob for lead, it will be found advantageous to use a lead checking machine of this type since the use of sine bars eliminates the possibility of errors in hob lead or deviations of the hob teeth from the true path of helix.

To assure the hob user that all hobs for the same job will produce gears of identical characteristics, similar "Sine-Line" contour checkers—fixtures for quickly checking the pressure angle of hobs—may be used.

## Regularity of Ore Feed Cuts Costs for Mine

**I**N THE movement of ore from the open pit of the mine to the primary and secondary crushing plants, Castle Dome

Copper Company of Miami, Arizona, has utilized the widest pan feeder ever built as one of the means of providing regular

• This pan feeder is the widest ever built. Width was necessary to prevent blocking or arching of the material when it was conveyed to the glory hole. The feeder is 25 feet from center to center of sprockets and sets horizontal, while the pans are 10 feet 6 inches wide, 18-inch pitch, and are 1½ inches thick. The feeder is in operation here.

dependable feed at low operating and maintenance cost.

Run-of-mine copper sulphide ore is taken out of the open mine pit by 5-yard electric shovels operating on a series of 45-foot benches. Thence it is hauled in 20-yard trucks to a glory hole at the primary crushing plant about three-fourths of a mile away.

This glory hole has a storage capacity of about 3,000 tons to take up any slack between the mine and the primary crushing plant. The width of the pan feeder prevents any blocking or arching of the material in the glory hole.

The feeder is 25 feet from center to center of sprockets and sets horizontal, while the pans are 10 feet 6 inches wide, have 18-inch pitch and are 1½ inches thick. They are overlapping and non-spilling, made of manganese steel mounted on three strands of manganese steel non-sagging chain, having manganese steel pins and bushings for long life and rolling on manganese rollers.

### Ranges From 250-1,000 Tons

A variable feed enables the feeder to operate in a range of 250 to 1,000 tons an hour.

From the head end of the feeder the ore drops onto a heavy manganese steel "grizzly," where material less than 7 inches in size by-passes the primary crusher while the oversize goes directly into a 66x 84 jaw crusher.

A distinctive type of drive is used on the 48-inch conveyor which carries the primary crushed ore 1200 feet up a 197-foot lift across the canyon to the secondary storage bin. On the lower tail pulley it has a 125 h.p. motor and at the upper head pulley a 200 h.p. motor. Motors and reduction units are so arranged as to give the same belt speed. By using this type of drive both driving pulleys are driving on the dry and underside of the belt.

Flexibility between the primary and secondary crushing plants is provided by the secondary storage bin. Crushed ore is fed from the bin by four 48-inch by 16-foot manganese steel pan feeders to 41-inch belts, each of which discharges the material into a bar grizzly with 1½-inch openings.



The oversize material goes to a 7½-foot short head cone crusher, and thence to vibrating screens in closed circuit with secondary short head cones. Material less than three-eighths inch passes direct to the concentrator storage bins.

#### Conveyors Used Throughout

Movement and elevation of both the oversize and minus material to the concentrator bins is by means of a 42-inch conveyor equipped with a motor-driven tripper. For security in case of a power breakdown, both the primary 48-inch and the secondary 42-inch belt are provided with totally enclosed heavy duty roller type holdbacks to prevent reversal of the belts under load.

From the bins the material then is fed to the closed-circuit grinding mills by a 24-inch conveyor on which there is a weightometer for recording the daily grind. Average grinding capacity for all the mills is 12,000 tons a day.

The pulp is fed to flotation machines for concentration, and then dropped from the filters into 18-inch belt conveyors which carry the concentrates to 15-ton trailer trucks for hauling 10 miles to the railroad siding near Miami for shipment to the smelter. The trucks are spotted under the concentrates conveyor by means of a capstan wire rope car pulled with clutch, having a starting rope pull of 10,000 pounds.

Stephens-Adamson supplied the feeders



• The 48-inch conveyor carries the primary crushed ore 1,200 feet up a 197-foot lift across the canyon to the secondary storage bin. On lower tail pulley it has a 125 hp. motor and at upper head pulley a 200 hp. motor. Both pulleys drive on dry side of belt.

and conveyor system and equipment. The weightometer is a Toledo, the classifiers Dorr, and the seven 10'6" x 11'0" grind-

ing mills, which are driven by a 600 h.p. synchronous motor, are Allis-Chalmers make.

## Westerners Attend Natl. Mats. Handling Show

THE FIRST national Materials Handling Exposition, held in Cleveland January 14-17, drew a good representation from the West, due in part to the fact that the date of the American Warehousemen's Association convention was changed to give members an opportunity to see the show.

It was also held in conjunction with the National Association of Refrigerated Warehouses, and consequently the program was slanted in that direction sufficiently to give the cold storage people a real interest in the proceedings.

Outstanding feature of the exposition was an exhibit show, "Machines at Work," in which two interlocutors and six panel members were seated at the side of the stage and made comments as the show progressed. Exhibits representing the John Doe Warehouse and the Kilroy Trucking Company were in center stage. The show was two hours long and showed every single piece of new equipment on the market.

One of the panel members was Harlan J. Nissen, vice-president and general manager, Terminal Refrigerating Company, Los Angeles, who is the retiring president of the National Association of Refrigerat-

ed Warehouses. The new vice-president of this association is Edgar M. Burns of Terminal Ice and old Storage Co., for many years secretary of the Northwest Cannery Assn. and the Northwest Frozen Foods Association.

Mr. Nissen talked on mechanical handling in refrigerated warehouses, which have special problems, such as moving equipment through 6½ to 7-foot doors. Another reason for needing lighter equipment is the light floors in some older warehouses.

"Industry is very much pallet-conscious," said he. "Our industry hopes to coordinate the other perishable foods industries with a standardized pallet."

He reported that some manufacturers are in production with fork lifts adaptable to the purpose, and that electric like automatic jack-lift trucks are usable in the cold storage industry. For the first time, according to Mr. Nissen, mechanical equipment is being used in multi-story refrigerated warehouses.

Tops in warehousing is the Alford Terminals at Dallas, he said, where the latest streamlined devices are being used to equip a plant. Some of the largest and most mod-

ern refrigerated warehouses in the West, he said, are the Modesto Refrigerating Co. at Modesto, Calif., and two in San Jose, one of which, the Security Warehouse, is an old building recently streamlined.

Six of the 76 exhibitors were Pacific Coast firms, and many Western distributors, factory representatives and branch managers of Eastern manufacturers were in attendance also. Western firms exhibiting, and their representatives follow:

Aerol Co., Los Angeles, manufacturers of industrial trucks, wheels and casters, W. R. Murdock, C. R. Irwin, J. H. Loebs and George Knaffler.

Hyster Co., Portland, Ore., straddle truck, lift trucks and crane, Philip S. Hill, R. M. Ronald, Clarence H. Collier, Jr., Dar Johnson, Hal White, Jr., Milton H. Smith.

Lawrence Pallet Exchange, Division of Lawrence Universal Pallet Co., San Francisco, D. L. Pursley.

Melooz Mfg. Co., Los Angeles, Ben Hooz, Julius Freedman, Joseph Hooz.

Salsbury Motors, Inc., Pomona Calif., C. Plin Mears, Harry C. Howard.

Transi-Tier Truck Co., Portland, Glen M. Ede, Verne Johnson, George Butler, R. C. Chambers.

Western Industry was represented at the convention by two staff men, Ralph Dorland and A. C. Petersen, district managers at New York and Chicago, respectively.



## First Postwar Western Metal Show in March

Metal working industries of the West and allied societies will pass in review the week of March 22-27 at the Fifth Western Metal Exposition and Congress in Oakland's two civic auditoriums.



Lee W. Delhi, AWS

Co-sponsored and managed by the American Welding Society and the American Society for Metals, this first postwar Western metal show will include many interesting displays and demonstrations. Exhibits will cover ferrous and non-ferrous metals, welding supplies and equipment, heat treating equipment and services, foundry, testing and inspection, materials handling, metal cutting and machining equipment and tools.

An important part of the Western Metal Congress to be held in conjunction with the Exposition will be the district convention of the Western sections of the American Welding Society. All of the society's national officers and directors will be in attendance to celebrate the twenty-fifth anniversary of the founding of the San Francisco Section.

Valuable technical information will be offered during the Congress through a series of lectures presented by the various societies:

American Welding Society will conduct four full days of technical sessions covering the major phases of welding (gas-electric-resistance).

American Society for Metals will discuss metal manufacturing in all its aspects and treatments thereof.

American Foundry Association will deal with general foundry theory and practice.

The Society for Testing Materials will outline their services to all related industries and their important position balancing standards and codes.

Many other important technical and nontechnical societies will be represented by their West Coast chapters to round out a full program of vital information to tie in with the practical knowledge of the exhibits.

## Pacific Coast Chemical Show Due in October

The first regularly scheduled Pacific Chemical Exposition, featuring an industrial chemical conference and display for

the Western states and Pacific area, will be presented in the Civic Auditorium in San Francisco, October 21 to 25, 1947, by the California Section of the American Chemical Society.

Chairman for the Exposition is Paul H. Williams of Shell Development Company, and the manager is Marcus W. Hinson, who has handled the National Chemical Exposition for the Chicago Section since 1940.

The Advisory Board for the exposition will include the following Westerners: Henry K. Benson, head, Department of Chemistry and Chemical Engineering, University of Washington; R. G. Follis, president, Standard Oil Company of California; A. H. Hooker, western sales manager, Hooker Electrochemical Company; Ernest O. Lawrence, director of the Radiation Laboratory, University of California; J. Oostermeyer, president, Shell Chemical Corporation; Linus Pauling, director, Gates & Crellin Laboratories of Chemistry, California Institute of Technology; Ralph Sanborn, director of plant coordination, California Packing Corporation; Walter A. Schmidt, president, Western Precipitation Corporation; Robert G. Sproul, president, University of California; Donald B. Tresidder, president, Stanford University; and Brayton Wilbur, past president, San Francisco Chamber of Commerce.

## Prefabricated Glass Panel Made in L. A.

A pre-fabricated glass brick panel using either the 6- or 8-inch glass brick, clear or opaque, has been developed by the J. A. Powers Company, Los Angeles brick contracting firm.

The unit is roughly 4 x 5 feet, and consists of the block cemented together in a wooden frame, with steel reinforcing rods tied in between each second course both horizontally and vertically and seated in the frame. The frame side members extend above and below the top and bottom members so that the unit may be nailed to the vertical house studs.

Between the frame and glass brick the grout is inserted making the unit thoroughly weatherproof. Copper flashing is included so that the unit is complete and ready for installation in the exterior wall.

Speed in manufacturing is gained by placing the frame horizontally, and inserting the bricks and reinforcing rods in the frame upon a bed of white dusting sand, then pouring the mortar. Semi-skilled help can be used in this operation, which reduces the overall cost by eliminating the work of high-priced masons. The number of units a day that can be produced is largely determined by the amount of floor space available to lay the frames out.

## NAM Prexy Former Oregon Business Man

For the first time in history, the National Association of Manufacturers has as its head a man familiar with Western problems through actual residence and experience. The new president, Earl Bunting, began his business career in La Grande, Ore., and from 1915 to 1930 was a resident of Portland.



Earl Bunting

He was born in Illinois and in 1913 moved to La Grande, where he formed the engineering and architectural firm of Bunting and Block. Discovering that there was no catalog of moldings made of Western lumber, he prepared a standard catalog which soon was used by 60 mills in Oregon.

As the catalog was printed by the Schwab Printing Company of Portland, it led to his becoming vice-president and director of that company in 1915. By night study at home he developed his knowledge of industrial engineering, performed consulting service for various concerns and in 1922 organized the firm of Earl Bunting and Associates, industrial engineers and marketing consultants.

This firm was succeeded in 1931 by the firm of Bunting, Durkee and Leake. In 1933 he went to Washington in the interest of bankrupt irrigation districts in Idaho who wanted the RFC act amended to permit them to get government loans, and finally this was brought about. Then in 1934 he was called in by the O'Sullivan Rubber Corporation of Winchester, Va., for reorganization service, and became president of that concern in 1941.

Bunting recently visited the Coast and noted Western difficulties. He said:

"The Western manufacturer who has succeeded is either a genius or works harder than his eastern competitor. Because of his limited market, he starts with a decided handicap. In the east, within easy trucking distance, is a market greater than that of the entire 11 Western states.

"Oregon companies, such as the Iron Fireman and Jantzen Knitting Mills are to be complimented on their business leadership. The fine advertising plans they have carried through so successfully have helped greatly in establishing their international reputation."

Mrs. Bunting is also a Westerner. She came from La Grande, and was president of the Portland Federation of Women's Clubs.



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\* Other states in the "Union Pacific West" will be featured in succeeding advertisements in this series.

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Raw materials . . . minerals, petroleum, lumber and agricultural products are available in large quantities.

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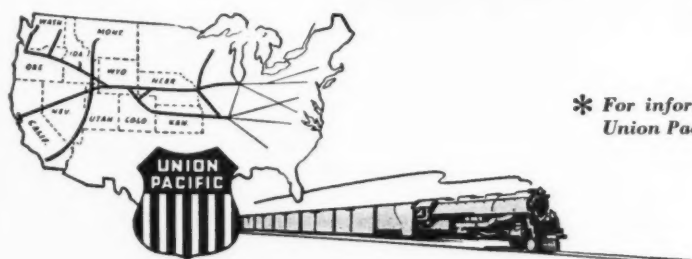
Hydro-electric power, nearby natural gas and oil fields, a mild all-year climate are industrial advantages.

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For industrial expansion, consider California. For dependable, all-weather transportation, to or from the West, we suggest—

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THE STRATEGIC MIDDLE ROUTE

# Few Westerners Are In Top Posts In Congress

**W**ASHINGTON, D. C.—The situation in Congress is still muddled and confused, early in January, in relation to committee assignments and the general functional work of the Congress.

The re-organization program was smoothly put into effect, and in the Senate the only persons from the West included in the group of leaders were Senator Eugene D. Millikin of Colorado, and Senator Edward V. Robertson of Wyoming.



Senator Robertson  
Wyoming

Millikin was designated as chairman of the Republican Conference, and Robertson as chairman of the Republican Committee on Committees. Both are highly influential jobs.

There are no Westerners in the leadership group on the House side. All the members thus far announced hail from the East or the South.

The only Westerner on the all-powerful House Appropriations Committee is Congressman Walt Horan of Washington, and the only Westerner on the equally powerful House Ways and Means Committee is Congressman Bertrand W. Gearhart of California. It is possible there may be another member from the West, on the Republican majority.

Congressman Cecil King, who has been a member of the Ways and Means from California the past year or so, lost his place on the Democratic minority group because his was the most recent appointment. He has been promised the next appointment on the Committee when a vacancy occurs.

## Welch Accepts Public Lands

Congressman Dick Welch of California is slated to head the Public Lands Committee of the House, which includes flood control and similar interests of paramount importance to the West. There have been a number of meetings of Western members representing both the Republican and Democratic groups, but thus far these meetings have not produced anything but conversation.

Neither in Congress nor elsewhere in the capital do they like to discuss it, because the subject is extremely unpopular for obvious reasons, but it is becoming more clear almost every day that we are slowly moving towards a defense economy with all that an economy geared for war may mean. The appointment of Gen. Mar-

By **ARNOLD KRUCKMAN**  
Washington D. C. Editor of  
*Western Industry*

shall as Secretary of State is regarded as one of the most significant indications.

It is generally understood that the potentials of trouble have moved from Europe to Asia. Marshall now understands the Asiatic situation probably better than any other American save MacArthur. Another straw in the wind was the cautious manner in which the President carefully avoided discussion of reduction of taxation in his message, and the emphasis he placed on the need for adequate preparation of national defense.

Still another interesting symptom of thought by those who have been in top spots was the resignation of Barney Baruch. Mr. Baruch quietly but effectively made clear that he did not have sufficient confidence in the peaceful purposes of UN to abandon any advantage we may have to defend ourselves. Baruch seems to think that it may be good international politics to speak softly but to carry a big stick in addition to an atom bomb.

## Be Prepared!

If you keep touch with what they are doing in the capital you become aware that the armed services are not easing their pressure upon manufacturers of arms and war equipment to keep their plants in shape for swift production. Also we know that the scouts from the various Government agencies are roaming the highways and byways of the world acquiring raw materials for the stockpiles which, incidentally, are one reason why the warehouses and warehousing space has not reduced in relation to Government needs.

Out there you have that presumably mysterious business known as Operations Prep, headed or activated by Donald Nelson, which in reality means Operation Preparedness. They all go about it with softly treading footsteps and by means of dicta that are intended to avoid arousing the great majority who are opposed to war, or any kind of war preparation.

At this period the veterans naturally are utterly unsold on anything approaching universal training, or big standing armies and navies, and large expenditures for munitions and war materiel. Most of them sincerely cannot understand why the lion and the lamb cannot lie down together and henceforth live in perpetual peace and friendship. They have seen the waste and futility of war, and they think any sacri-

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

fice is justified that will prevent another conflict.

Both veterans and members of Congress, the bedevilled officials of government, hope that the mysteries which the scientists vaguely suggest in occasional stray statements, the things that are preparing for the annihilation of the human race, may take the pressure off the need for great armed bodies. They will tell you that it may be wise to wait and see what science has up its sleeve to make the old-fashioned kind of war unnecessary.

Another element on the Hill, and elsewhere in Washington, insists that the chief defense should be directed against the subversive elements probably fostered by potential enemies within our own gates.

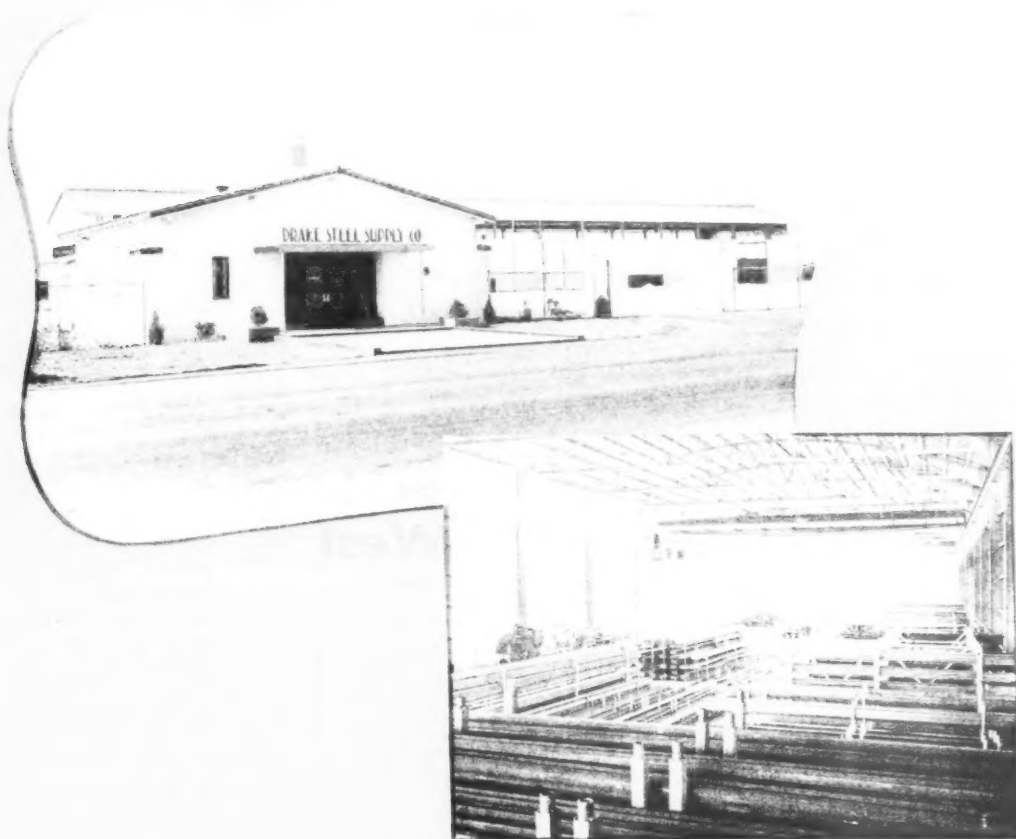
But no matter what they say, there is implicit in their discussions the unhappy tacit admission that some form of preparedness is unavoidable, whether we will or we won't. This obviously means that we virtually are headed irrevocably towards another resumption of an economy based largely on the probability of war. And when such an economy comes there is patently no option but to accept the thought that a certain amount of regimentation, restrictions, and constrictions—controls—must go with war preparations.

## Billions for Defense

Not many months ago the War, Navy, and other war agencies, set the 1946-47 defense budget at \$19,000,000,000. Early in December some of the most vigorous-minded budget experts flatly, if informally, pointed out that we could not adequately prepare for national defense for less than \$36,000,000,000 next fiscal year; some even insist that the sum required may reach the total of \$40,000,000,000 — possibly higher.

There is no remote doubt the harrassed and bewildered new 80th Congress must make the subject of national defense its chief subject of concern. It will probably

## STEEL AND TUBING -



Drake Steel Supply Co. takes pleasure in announcing the opening of their new Fresno Steel Warehouse. The ever increasing importance of the San Joaquin Valley with its many industries prompted us to establish a centralized, complete steel warehouse service in Fresno, California. Stock lists sent on request.

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reach the forefront of discussion by late winter or early spring.

It is worth remembering the President still has more than 450 special war-power laws which he may use despite the recent declaration of the end of hostilities. These include extraordinary powers over transportation, over procurement and finance, and powers so broad almost anything could be legally done.

#### **Taking Industry Underground**

We have a board in Government, working night and day, headed by Chairman Deupree of Proctor and Gamble, which is making plans to prepare industry to be ready to go underground when and if it is necessary, and which has made great progress in convincing many industrialists that decentralization is a basic need in the war that may be ahead. The Army and Navy themselves, properly, are doing their utmost to keep industrial preparedness up to scratch among the most essential arms makers.

Not much has been published about it, but the facts that have stirred many industrial groups have come at first hand from the representatives of management and labor of the United States who recently returned from the conferences of the International Labor Organization, which were held in Europe from Belgium to the boot of Italy.

They report that they found to their amazement that either Communism or a very radical Socialism are the dominant political and social ideals that influence both management and workers over there. The Americans were bewildered to find the Europeans do not think in terms of creating, through industry, new assets and commodities and services, by utilizing initiative and manpower and materials, but almost wholly devote their thought to exploration of methods by which they may share their existing resources.

One American member of the Conference, representing the building and construction industry, found that all Europe looks to us as the other great global force, incredibly rich (the chief "have," as it were), which must carry the burden of all troubles connected with supplies, finances, and planning, as opposed to the implicit ideology of the Soviets.

#### **Asia a Hot-Bed**

The same person reported the representative from India spoke for an hour and a half, and declared the next World War has already started in Asia; that Asiatics, two billion strong, have begun to march with their allies to rid the Orient of European and American dominance, that they intend to share in the things that make the West prosperous and comfortable.

This American observer was grieved and somewhat shocked to find that the age-old authority of the British is utterly nil in Europe, as well as in the East. He found that Europe accepts the Russian as the actual master of the continent.

There still was independence and individual integrity of the person among the Scandinavians, and, notably, among the Finns; but the rest of Europe he found progressively violent in its championship of communism. The American found the British in their isles much more tightly limited in foods, clothes, and all other supplies for daily life, than any other people across the Atlantic.

Incidentally, the recent collective drive initiated by the Latin-American republics for a minimum of 7,000,000 immigrants from Europe, to build up South American agricultural and industrial economies, has obviously a definite meaning to us. Italians, who apparently have become rabidly communistic in Europe, are wanted in Argentina, Brazil, Venezuela, Peru, and Chile. Colombia, Uruguay and Venezuela seek French, German, Belgian, and Dutch immigrants. Some Japanese also will be welcomed. Immigrants must be 55 or under, with or without means.

Shortages remain the principal topic of industrial discussions in the capital. Steel is very short, and no one will forecast what may happen until CIO and the steel people

sit down and decide what to do about wages at the impending conferences. Sheet steel appears to be the principal problem.

#### **Hard-to-Get Items**

The shortage has definitely restricted production of farm machinery, of automobiles, and household goods. Pig iron is being brought from Sweden and other foreign countries. Scrap is at premium. Copper, lead, tin, are so scarce that their lack apparently interferes with considerable production of machinery and electrical equipment. Aluminum also is placed in the short classification.

Washington definitely derides the idea of a slump this year. The feeling is there is such pent-up demand for almost everything that all plants will be kept in operation as quickly as industrial units can get materials and manpower.

It is regarded as almost certain that the 15 per cent passenger tax, and the 3 per cent freight tax will be killed, despite Treasury's desire to hold onto the \$500,000,000 annual income. Controls on commercial building are expected to be entirely wiped out by August.

## **Noted Products Made Out West**

When our Washington editor, Arnold Kruckman, revisited the West this summer after an absence of many years, he was much surprised to learn that several products well known in the East are manufactured out here. This article reports Mr. Kruckman's experience in his own words. The items he mentions are only a few that are shipped East.

**T**HERE is a fundamental wisdom in the old saw that you must go from home to hear the news. In the West people seem to regard their chief commercial assets for national trade as citrus fruits and their products; timber and its many commercial forms; minerals and metals and the things they make; motion pictures; women's apparel; furniture; salmon and other Pacific fish; canned fruits and foods; and the commerce that comes from the dramatic assets of scenery, climate, and diversions which attract the tourists.

For a considerable period this reporter has been aware of a product known in the East by the trade name of Dermetics, a group of toiletries and cosmetics in high favor with women who do not like to use the more widely popular and less costly things. There is no doubt most of the millions who use the products with the Dermetics label assume they are made in the East, or even in some vaguely distant foreign place.

It was surprising to find that the main source of Dermetics is in an imposing plant on the waterfront in Portland. The

products are made there, and are packed there in their ultimate containers, and shipped from Portland to many varied places of distribution.

Another choice article much in vogue in the East, among those who are fastidious, is a confection called Almond Roca. It was surprising, at least to this reporter, that this dainty is made at Tacoma, by the firm of Brown and Haley, and distributed widely on this continent and elsewhere. Both of these products have set a standard, nationally, of unique excellence.

The interesting aspect of this situation is that these wholly Western products supply a need that cannot be met in the East, although the commodities are highly competitive with other goods in the same category made in the East and elsewhere in the world. The very quality of the products makes price secondary to the essence of the thing itself.

There is a substantiality in the achievement, a freedom from the restrictions that usually are believed to limit merchandise that originates on the Pacific Coast, which should stimulate thought concerning the possibility of making and marketing other things stemming from Western bases, and with a kindred appeal.

Still another product comes to mind which is making its way like wild fire. It is known as Sawyer's View-Master, a modern version of the old stereopticon, a device which enables one to obtain full-color views in three dimensions of a large range of scenic and other photographed pictorial records. The device is made of plastic in Portland, Oregon, and is distributed from Portland. They have difficulty making instruments and reels fast enough.



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# WESTERNERS AT WORK...

## Arizona

John H. Davis Jr. transfers from Ajo branch of Phelps Dodge Corp. to Douglas branch where he will be an assistant to H. V. Kruse, chief engineer of mechanical engineering dept.

## California

### Metals

J. G. Huseby, gen. supt. of operations in Shasta County, for Mountain Copper Co., Ltd., named asst. mgr. of firm with headquarters at San Francisco. W. C. McClung moves up to Huseby's old spot.

R. W. Reno, former sales mgr. of Soule Steel in Los Angeles, opens own steel fabricating plant at Torrance under name of R. W. Reno Engineering Co.

Caine Steel Co. appoints John I. Marder comptroller, Los Angeles. . . .

Kaiser Engineers, Inc., appoints Einar Larsen chief project engr. in charge of engineering development of Eagle Mt. ore deposits for Kaiser Steel. . . .

Permanente Products Co. appoints Floyd R. Carpenter mgr. of development div. with offices in Oakland. . . .

Bethlehem Pacific Coast Steel Corp. appoints Harvey Hewitt, formerly mgr. of sales, Los Angeles District, v.p. in charge of sales, succeeding Paul W. Cotton, retiring; William J. McClung, formerly gen. mgr., v.p. in charge of operations of steel plants and mill depts., succeeding T. S. Clingan, retiring; Lionel J. Soracco, gen. supt. of Los Angeles plant, succeeds Hewitt as mgr. of sales; J. T. Rea becomes new gen. supt. and Willard S. Briscoe made mgr. of publications. . . .



J. T. Rea

Harvey Hewitt  
Bethlehem Pacific

Soracco

Reese Tucker resigns as sec.-treas. of Western Pipe & Steel to become associated with Hood & Strong, certified public accountants. . . .

I. W. Davies named mgr. Emeryville plant of International Harvester Co., succeeding A. W. Engstrom. . . .

W. F. Boyle, gen. mgr., elected v.p. and gen. mgr. of Pelton Water Wheel Co. . . .

### Transportation

Arthur W. Carlson appointed bridge engr. of Western Pacific RR, succeeding vice-Col. H. M. Smitten, retired. . . .

H. J. Kellner, formerly with Douglas Aircraft, joins Cal-Aero Technical Institute, Glendale, as asst. chief engr. . . .

Solar Aircraft Co. appoints Herbert Kunzel, San Diego attorney, sec., and Alexander Black, asst. mgr. of the Des Moines plant, asst. sec. . . .



Kenneth F. Leaman

Lt. Col. Lloyd F. Ryan succeeds Harold H. Hasenbeck as supvr. of engineering laboratories at Ryan Aeronautical Co., San Diego, when Hasenbeck becomes supvr. of electronic and control systems research and head of special military projects laboratory. Col. Ryan, an air forces research physicist, was in charge of armament laboratories at Wright Field.

National Skyway Freight Corp., the Flying Tiger Line, Los Angeles, appoints Commander George O. Noville v.p. and gen. mgr. . . .

M. P. Bickley, cargo mgr. of United Air Lines, named chairman, cargo sales promotion committee, of the Air Transport Assn. . . .

Terrell C. Drinkwater, formerly v.p. of American Airlines and v.p. and director of American Overseas Airlines, Inc., is pres., chief exec. officer and director of Western Air Lines, succeeding William A. Coulter, who will remain a member of board of directors. . . .

### Rubber

J. C. Voiles, chief engr. for Plant Rubber & Asbestos Works, San Francisco, is made div. mgr. of East and Midwest territories with headquarters in New York City. . . .

### Government

Ralph A. Stearns will direct WAA's Office of Aircraft and Electronics in Western states. . . .

Walter Warren, former business editor for Associated Press in San Francisco, appointed chief of regional business and economic information staff for the U. S. Dept. of Commerce.

San Francisco reg. offices of the Maritime Commission announces several organization changes: Royal W. Cutler is traffic mgr. replacing E. E. Ferrari, who resigned to become asst. director of the Port of Stockton; Howard A. Pellon is asst. to Fleming; E. T. Joste is in charge of ship delivery succeeding Lloyd M. Mauk, resigned; William Mann is acting district counsel, succeeding William Ball, resigned, and R. F. Travillian is district food control rep., replacing Leroy Morrow, resigned. . . .

M. S. Huberman, formerly special asst. to U. S. Atty. Gen. in anti-trust div., retires as gen. partner in Mars Metal Co. to practice law in San Francisco, and Hugo F. Forster becomes a gen. partner of the firm. . . .

John R. Dille appointed reg. director at San Francisco of the wage and hour and public contracts divs. of the U. S. Dept. of Labor, succeeding Wesley O. Ash, resigned. . . .

### Shipping

Rear Admiral John R. Redman, USN, relieves Capt. Francis X. McInerney, USN, as Deputy Commander and Chief of Staff for the Western Sea Frontier. McInerney assumes command of the Receiving Station. . . .

De La Rama Steamship Co., Inc., San Francisco, appoints Carl C. Bland exec. asst. to the Pacific Coast mgr.

Lloyd M. Mauk, formerly with American President Lines, resigns as asst. area admin. offices of U. S. Maritime Commission to join Pacific Far East Line, Inc. . . .

Claire V. Goodwin, bond broker with Walston, Hoffman & Goodwin, elected pres. of Oakland Board of Port Commissioners, succeeding John F. Hassler, who resigned to become Oakland city mgr.

Raymond Flood, former v.p. of Flood Bros., appointed by Secretary of War to head the rehabilitation of Japanese shipping and the reconversion of waterborne transportation to and from Japan by offshore lines. . . .

Commodore Lisle F. Small, U.S.N. retired, has been elected president of the United Engineering Company, San Francisco. He succeeds Raymond P. Hasenauer, retiring to resume his duties as treas. of the Matson Navigation Co.

### Cans

American Can Co. advances C. W. Roberts, formerly G.M. mfg. Pacific div., to asst. to v.p. in charge of mfg. Succeeded by F. C. Lausten.

Glass Containers, Inc., names Francis W. McDonald v.p. and gen. mgr.; W. E. Bosch, asst. gen. mgr.; Vernon Rust, resident mgr., Los Angeles; A. C. Larsen, resident mgr. Antioch, Calif. . . .

Muirson Label Co. appoints George R. Langlois v.p. in charge of sales and Whitney J. Wright a v.p. . . .

### Petroleum



• Prominent men at General Petroleum Corp. who have been honored recently are v.p. Clarence S. Bessemer, left, who has been elected pres. of the Los Angeles C. of C.; and Max S. App, right, named v.p. and dir. of produc. to succeed B. E. Parsons, retired.

John W. Watson appointed v.p. and treas., Shell Chemical Corp. . . .



J. M. Jessen elected sec. of General Petroleum Corp.

#### Utilities

San Diego Gas & Electric Co. appoints L. M. Klauber, formerly v.p. and gen. mgr., pres., succeeding Hance H. Cleland, who becomes board chairman. . . .



J. B. Van Der Werff

The Pacific Telephone and Telegraph Co. appoints F. A. Dresslar v.p. and gen. mgr. of the Northern California and Nevada area, succeeding R. E. Hambrook, appointed v.p. with system-wide responsibilities. . . .

General Electric Co. presented the Charles A. Coffin Award to George Barr, for outstanding services in marine installations in the Bay area during the war years, and Robert H. Porter, for exceptional work as field engineer. . . . Wayne H. Allen, aviation engineer, L.A. office, and Howard H. Bullock, mgr. Phoenix office, G.E., also were recipients.

#### Foods

Marsdon Burns joins California Vegetable Concentrates, Inc., Huntington Park, as director of research. He returned from war service as officer in charge of food development and reclamation section for U. S. Army in New Zealand.

Glidden Co. names W. W. Stephens mgr. of vegetable oil div. at Buena Park, succeeding L. C. Barlow who retired. . . .



Dr. Michael J. Copley

be a special assistant in the Bureau of Agric. and Industrial Chemistry.

#### Firearms to Firewater

John B. Cella retires as v.p. and director of Schenley Distillers Corp. and as chairman of board of Cal. Vineyards Assoc., a subsidiary, to manage extensive family holdings. Brig. Gen. James R. Herbert, former cmdr. of L.A. port of embarkation, appointed pres. of Roma Wine Co., an affiliate, and the Vineyards Assoc., succeeding B. B. Turner, who joins Cella in an exec. position. . . .

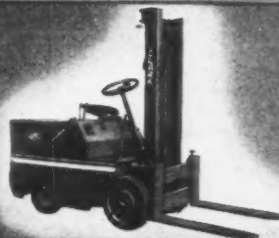
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# WESTERNERS AT WORK...

## Leaders!

Edgar C. Hummel, v.p. and gen. mgr. Utility Electric Steel Foundry, and v.p. and director, Utility Trailer Mfg. Co., becomes reg. v.p. of NAM for seven Western states, succeeding Paul B. McKee, Portland Gas & Coke Co., who becomes NAM national v.p.

John A. McCone, pres. of Joshua Hendy Iron Works, San Francisco, and Lane D. Webber, v.p. of Southern Cal. Edison Co., Ltd., Los Angeles, elected directors of NAM. . . .

E. W. Daniels, pres. of Harbor Plywood Corp., Washington, and chairman management committee of Douglas Fir Plywood Assoc., elected a director from Washington state of NAM.

R. W. Truesdail of L.A., is exec. committee member of American Council of Commercial Laboratories.

Carl J. Eastman, v.p. and Pacific Coast mgr., N. W. Ayer & Sons, Inc., elected pres. of San Francisco C of C, succeeding Brayton Wilbur.

## Colorado

Fred Wise, formerly in charge of activities of the Newmont Mining Corp. Esmeralda Operation unit at Goldfield, transfers to Ouray as mgr. for Idarado Mining Co. Charles W. Plumb succeeds Wise at Goldfield. . . .

D. R. Pulliam, v.p. of Mountain States Beet Growers Marketing Assoc., elected pres. of organization, succeeding W. B. Gress. A. J. Bar-

tholomew elected v.p. and Richard Blake, sec., replacing Harold Hogsett, resigned. . . .

## Idaho

Carney Pacific Rock Wool Co. names Murray Estes of Moscow chairman of board of directors for the new co., an affiliate of Carney Co., Inc. of Minn., to be located at Longview, Wash. Harry E. Carney Jr. is pres. and N. A. Holmer v.p. Directors named are J. Melrose, Spokane; Vernon Scheid, Moscow; H. M. Preston, Chicago; W. B. Lee, Mankato, Minn. . . .

E. C. Rettig of Lewiston elected pres. of the Western Forestry and Conservation Assoc., succeeding Kenneth R. Walker. . . .

## Montana

Richard Morris of Billings will head a tariff and rate bureau for Montana Motor Transport Assn., to offer private carriers a freight bill auditing service.

## Nevada

William J. Loring, mining engineer, is gen. mgr. in charge of operations at Tonopah Belmont Consolidated Mines Co., where company is rehabilitating its mining property near Tonopah.

William J. Hackett, Reno, apptd. acting director of the Nevada district sales office of the WAA, succeeding D. G. Myers, transferred to the Sacramento office. . . .



\* Los Angeles was chosen as meeting place for the nation's leaders of the clay sewer pipe industry recently, when the National Clay Pipe Manufacturers, Inc., met to discuss their production problems and promotion program. Left to right, front row, J. J. Stein, NCPMI operating committee, Los Angeles; H. W. Planje, Gladding McBean Co., San Francisco; G. D. Clark, Jr., Pacific Clay Products Co., Alameda, Calif.; E. K. Sheffield, NCPMI pres. and pres. Logan Clay Products Co., Logan, O.; E. L. Miller, American Vitrified Products Co. Cleveland; H. W. Jewell, Pacific Clay Products Co.; B. F. Eisner, NCPMI operating com., Columbus, O.; and Roy Lacy, pres. Pacific Clay Products Co., Los Angeles. Back row, C. P. Cahoon, pres. Interstate Brick Co., Salt Lake City; Fred Cresswell, NCPMI mgr., Washington, D.C.; John M. Palmer, sales mgr. Lee Clay Products Co., Clearfield, Ky.; A. C. Gladding, Gladding Bros. Mfg. Co., San Jose, Calif.; C. B. Beasley, branch mgr. the W. S. Dickey Clay Mfg. Co., Birmingham, Ala.; Clark Sutherland, prod. mgr., Pacific Clay Products; A. T. Wintersgill, sales mgr., Pacific Clay Products; E. F. Clemens, v.p. Cannellton Sewer Pipe Co., Cannellton, Ind.; W. E. Robinson, pres., Robinson Clay Products Co., Akron, O.; George Mays, general mgr., Calif. Pottery Co., Niles, Calif.; Fred B. Ortman, pres. Gladding-McBean Co., Los Angeles; H. P. Wilhelmsen, pres., The W. S. Dickey Clay Mfg. Co., Kansas City, Mo.; D. M. Strickland, NCPMI v.p., Atlanta; E. M. David, pipe div., Gladding-McBean & Co.; J. D. Cook, NCPMI sec.-treas., Chicago; R. A. Arnold, Gladding-McBean & Co., Los Angeles, Calif., were among the clay pipe manufacturers who attended.

## New Mexico

E. P. Chapman Jr., Salida, Colo., is v.p. and gen. mgr. of Hayden Mining Co., which has taken over the Harding mine located 12 miles from Dixon. John A. Wood is mgr. of the operation.

New members named to the exec. committee of the Assn. of Los Alamos Scientists include: Dr. Joseph Fowler, physicist and group leader; Robert Davis, group leader and project historian; Dr. Joseph Mullaney, physicist and group leader; Dr. Seymour Katcoff, radio chemist; and Dr. L. D. P. King, physicist and group leader. . . .

## Oregon

L. J. Vaillancourt named mgr. of Archer-Daniels Midland Co., linseed oil plant, Portland, succeeding John Broshard, named mgr. of Buffalo, N. Y., plant. . . .

Elliott Higgins, formerly res. engr., General Motors, new departure div., is a partner in Oregon Industrial Factors, Portland. . . .

Corvallis Lumber Co. appoints W. H. Madison mgr., replacing George Young, resigned.

Mountain States Power Co. names Raymond E. Glass mgr. of Coquille office. . . .

Lee Demytt, supt. of the state flax industry at Oregon penitentiary, resigns to become flax grader for the federal production and marketing admin. . . .

Homer T. Shaver, transportation exec., appointed to the Portland public dock commission, succeeding A. H. Averill. . . .

Stephen M. Shelton takes over the work of directing the metallurgical div. of the northwest electro-development lab. of the U. S. bureau of mines at Albany, replacing Dr. Bruce Rogers, granted a year's leave of absence. . . .

Lloyd Riches, Western Paper Converting Co., Salem, re-elected pres. of Columbia Empire Industries, along with other officers.

Oregon Steel Mills appoints Howard F. Hazel, gen. supt. in charge of all plant operations. . . .

## Chambers Elect

Robert T. Mercer, contractor, named pres. of North Bend C of C, Milo Reed nominated v.p. and Bernie Andrews, treas.

C of C directors, McMinnville, elected James Stanard pres.; Lloyd Crow, v.p.; John Her-ring, Jr., treas.; E. G. Younger, sec. . . .

The Central Oregon C of C, new tri-county organization, headed by Howard Turner of Madras, chairman; D. M. McKenzie, Redmond, v.-chairman; Howard Steib, Bend, sec.; Remy M. Cox, Prineville, treas. . . .

## Utah

Henry H. Reiser, asst. mgr. Ford Motor Co., Salt Lake City, promoted to mgr. . . .

Don E. Kenney, member of the State Agriculture Commission, named mgr. of the Salt Lake Union Stock Yards. Merrill Parkin is asst. mgr. . . .

Ralph Tuck appointed geologist in charge of the exploration div. of geological dept. for western operations of U. S. Smelting, Refining and Mining Co. in Salt Lake. . . .

Kuno Doerr Jr., asst. mgr., Utah dept., American Smelting and Refining Co., promoted to mgr. at East Helena, Mont., succeeding Edward McL. Tittman, transferred to southwestern dept. as mgr. Tittman succeeds Robert D. Bradford, formerly head of the dept. of metallurgy at the U. of Utah, who is transferred to Selby plant and the San Francisco office. R. C. Cole succeeds Doerr as asst. mgr. . . .

Leland A. Walker, mgr. of mines in Utah for U. S. Smelting, Refining & Mining Co., retires after 34 years of service with the company. He started as an assayer back in 1912.

John A. Payne, pres. Consolidated Coppermines Co., elected chairman of the board, The Tital Metal Mfg. Co., Bellefonte, Pa. . . .

H. Byron Mock, former chief counsel of Grazing Service, appointed administrator of Salt Lake reg. office, bureau of land management.

## Washington

### Government

Col. Roy Bessey, former director of Northwest regional planning council, is exec. director of the Interior Dept.'s new Pacific Northwest coordinating committee. R. J. Newell, Boise, regional director of the Bureau of Reclamation, elected chairman, and Dr. Paul J. Raver, Bonnevill admin., v.-chairman. . . .

Lieut. Comdr. H. E. Wigle, USNR, appointed commanding officer of Naval Reserve's newly activated Electronic Warfare office in Seattle.

Pacific Northwest forest and range experiment station appoints Norman P. Worthington as head of the Western Washington work center at Olympia. . . .

Irvin A. Hoff, reg. director of OPA, appointed admin. asst. to Senator Warren G. Magnuson for the 80th Congress. . . .

James A. MacLean, former Seattle newspaper man, named head of business and economic information staff of Pacific Northwest office of U. S. Dept. of Commerce. . . .

Philip M. Crawford, formerly reg. production mgr. for WPB, named by U. S. Dept. of Commerce as representative of office of technical services, Seattle. . . .

### Here and There

Tom Herbert is new mgr. of the publicity dept. of Seattle C of C. . . .

C. Stuart Polson, lumber exec., elected pres. of Aberdeen C of C, succeeding Martell Brown. A. J. Smith is v.p. and H. F. Boss, sec.-treas. . . .

Thomas J. Bannan, pres. of Webster-Brinkley Co. and of Western Gear Works, elected reg. v.p. of the NAM. . . .

Fred R. Boynton, for two years managing director of Seattle Safety Council, resigns to return to private law practice. . . .

### Manufacturers

William J. Dinsmore, former asst. to the pres., appointed gen. mgr. of Adhesive Products Co., Seattle. . . .

International Harvester Co. promotes Carl H. Erlandson, Seattle retail sales mgr., to asst. branch mgr. and Thomas S. McHugh, zone mgr., to sales mgr. . . .

George S. Douglas, formerly v.p. and gen. mgr. of Puget Mill Div. of Pope & Talbot, Inc., becomes v.p. of Western Printing Co. . . .

C. P. Love will supervise rehabilitation and operation of aluminum plant just purchased by Permanente Metals Corp. He comes to Tacoma from the Mead Reduction Works in Spokane, where he was plant supt. Norman K. Krey, works manager at Mead, will have over-all management of the Tacoma operation as well.

Dale L. Pitt, Seattle, elected pres. and managing director of Spud Valley Gold Mines, Ltd., of which he has been vice-pres. in charge. He has been active in British Columbia and Alaska mining concerns for many years. Pitt does consulting work out of Seattle.

The Standard Oil Co. of California appoints O. E. Garver asst. mgr. at Spokane, succeeding F. H. Paine, transferred to Portland district. . . .

Hal Blake, formerly shop supt., Gen. Iron Works, Denver, is new gen. foreman of Western Gear Works, Seattle, replacing Ralph Smith, who resigned. . . .

G. G. Lail, formerly with General Electric in Pittsburgh, Pa., is new asst. works mgr. of Hanford Engr. Works in Richland. . . .

Gordon M. Looney, district mgr. for Libbey-Owens-Ford Glass Co. in Seattle, named director of distribution research for the company. . . .

### Utilities

J. Wilson Gaw, formerly domestic sales mgr., promoted to asst. to the pres. of Seattle Gas Co.

George Brunzell, Washington Water Power Co., promoted to supt. of Spokane div. . . .

### Foods

Dairy engr., B. A. Boucher appointed mgr. of the dairy, ice cream, beverage and creamery plant engr. dept. of Pyramid Co., Inc. . . .

Northwest Frozen Foods Assn., Seattle, names T. E. McCaffray, Nation Fruit Canning Co., as pres., and Roland C. Jory, United Growers, Inc., as v.p. . . .

### Shipping

K. W. Gilmore, formerly with Girdwood Shipping Co. and Canadian American Shipping Co., appointed Seattle district mgr. of Parry Navigation Co., Inc., a new transpacific steamship service, and Leo J. Cummings, formerly with McCormack Steamship Co., is asst. mgr.

Fred R. Brown Jr. joins Sea-Port Shipping Co. as traffic representative succeeding Carl Culver, who resigned to open own shipping office. . . .

E. G. Mueller, formerly port rep. of Recruitment & Manning Organization of the War Shipping Administration, appointed district freight agt. of the Pacific-Atlantic Shippers' Assoc., Inc., Seattle. . . .

### Railways

Seattle, Portland & Seattle Railway Co. names Carl F. Thomas sec. and chief engr., succeeding A. J. Witchel, retired. . . .

F. R. Bartles, gen. mgr. of Northern Pacific Railway's Western District, Seattle, retires and is succeeded by his asst., J. F. Alsip. C. H. Burgess, supt. of Tacoma Div., succeeds Alsip as asst. gen. mgr. and I. P. Iversen heads Tacoma div. F. W. McCabe, Seattle trainmaster, becomes asst. supt.

## Associations Elect

N. P. Nielsen, Pueblo, Colo., was elected president of the Rocky Mountain Sewage Works association at the annual convention at Santa Fe, N. M.; H. J. Watson, Cheyenne, Wyo., was elected v.p., and C. H. Coberly, Denver, re-elected sec.

Milton Twitchell of the Utah Tax Commission was appointed chairman of the western region of the National Tobacco Tax Association. The western region includes Arizona, Idaho, New Mexico, Oklahoma, Texas, Utah and Washington.

Officers of the new Washington chapter of the American Foundrymen's Assn. at Seattle are: C. M. Anderson, Eagle Brass Fdy. Co., chairman; George M. Rauen, Olympic Fdy. Co., v.-chairman; and A. D. Cummings, Western Fdy. Sand Co., sec.-treas. . . .

The Seattle chapter of the Nat'l Assn. of Cost Accountants elects: Fred W. Neale, Boeing Aircraft Co., pres.; Michael O'Byrne, U. S. Navy cost inspection, first v.p.; Carl Warnick, H. G. Bauer Co., second v.p.; and Eli A. Hammer, Sunset McKee-Standard Register Co., sec.-treas. . . .

Pacific Lumber Remanufacturers' Assn. elect J. H. Jones, Eugene, pres.; I. E. Ford, Portland, v.p.; Richard J. Ulican, Jr., Aberdeen, Wash., sec.-treas. . . .

William W. Moore, of Dames and Moore, elected pres. of the Structural Engrs. Assoc. of Northern Calif., and John A. Blume, consulting structural engr. of San Francisco, is v.p.

Charles B. Lindeman, publisher of The Seattle Post-Intelligencer, succeeds S. S. McKeen as pres. of Northwest Trade Assn. Vice-presidents elected are: Ralph D. Baker, Vancouver; J. V. Johnson, Victoria; K. M. Kennell, Tacoma; and E. H. Braden, Spokane. . . .

Portland Automotive Trades Assoc. elected E. C. Mattson, pres.; R. M. Whitaker, first v.p.; C. E. Diller, second v.p.; Jack A. Layley, esc.; George Rotegard, treas.; J. F. Stiens, Jr., and Tracey J. Colt, directors. . . .

Robert Matteson, supervisor in charge of analytical div. of Richmond Laboratories of California Research Corp., affiliate of Standard Oil Co. of Calif., elected chairman of Calif. Section of the Amer. Chemical Soc., succeeding Dr. Louis B. Howard of Bureau of Agricultural and Industrial Chemistry of U. S. Dept. of Agriculture. Other new officers are: G. K. Rollefson of U. of Cal. chemistry dept., v.-chairman; George M. Cook of Cal. Research Corp., sec.; Fred D. Tuemmler of Shell Development Co., treas. . . .

Wendell J. Coombs and Jay Hendrickson elected to board of directors of Columbia River Packers Assn., Inc. Edward W. Thompson is pres. and Tom Sandoz, v.p. . . .

Pacific Northwest Red Cedar Shingle bureau elects Charles Plant, Vancouver, B. C., pres. and Jess Schwarz, Kelso, v.p. . . .

Washington Independent Telephone Assn.—Ray Dalton, v.p. and gen. mgr. of West Coast Telephone Co., Everett, elected pres.; Ed Welch, pres. of Morton, Wash., Telephone Co., v.p.; and J. W. (Dick) Baker of Spokane, re-elected sec.-treas. . . .



# REGIONAL REVIEWS

## SIERRAS TO THE SEA

**S**AN FRANCISCO—The terrific volume of continued industrial expansion of the Bay Area and Northern California during 1946, is making great changes in the whole economy of the area and presages continued growth industrially for the region.

During the first 11 months of 1946, some 1,165 industrial projects with outlays totaling \$130,621,000 were announced in Northern California. Of this total, 947 projects, worth \$110,339,590 (and including both new plants and plant expansions) were concentrated in the Bay Region, vastly strengthening that economy which stems from production.

Such an expansion and growth in the period of one year, although a good many of the projects are still to be completed or even yet begun, reflects the confidence of the industrial world in the development of the Northern California region as an industrial center.

This industrial growth is reflected in turn in other forms of development. Population of the nine Bay counties, now estimated at 2,600,000, is 47 per cent above the 1940 level. Sales are up  $3\frac{1}{2}$  times; wholesale trade volume of sales has more than doubled; financial transactions, measured by bank debits to individual accounts, are 46 per cent above the prewar level; civilian employment is estimated at 250,000 above 1940, while wages in the manufacturing industries alone are at more than double the 1940 level.

### The Importance of Steel

Although it is hard to single out any one individual project which will mean the most to the Bay Area industrially, construction of the \$25,000,000 cold reduction mill at Pittsburg by Columbia Steel is perhaps basically most important. It brings to Northern California the West's first modern tin plate mill as well as the West's first cold reduction mill for rolling steel sheets into cold rolled strip. The plant will have a capacity of half a million tons of sheet and tin plate annually.

If Columbia Steel is successful in its planned purchase of Consolidated Steel, in Los Angeles, another Bay Area plant will be included in the deal — Consolidated's subsidiary, Western Pipe & Steel Co., thus even more enlarging Columbia's investment in the future of the Bay Area.

Bethlehem Pacific, which has been expanding operations in the Coastal area, has concentrated establishment of its new bolt and nut box making plant in South San Francisco. A new spectrographic laboratory, which will be one of the finest in the country, for making spectrographic analy-

ses of steel, is now under construction here and will be in operation by summer. A new mill depot has been completed at Third and Mariposa Streets, San Francisco, at a cost of over \$500,000. In addition, Bethlehem Supply Company of California plans extensive expansion.

Other steel firms in the Metropolitan Oakland area which plan extensive expansions during 1947 are Caine Steel Co. of California which has begun construction of its new \$250,000 steel warehouse and service center at Emeryville, and Judson Pacific Murphy Company, which has a \$500,000 expansion of its steel facilities underway in Emeryville, and A. M. Castle Co., Berkeley, a \$600,000 new plant now in construction.

### Petroleum Companies Expand

Standard Oil of California is forging ahead on its \$10,000,000 expansion of Richmond facilities. The causeway is completed to its long wharf project, and the remainder of the job should be completed by 1948. Nearly \$4,500,000 will be expended to modernize and streamline product distribution in the wharf area, the narrow gauge electric railway giving way to two wide truck lanes.

Work on the California Research addition is about half finished, with completion scheduled by the middle of 1947, while work has just started on the California Research process lab which will be completed by the end of the year. The Industrial Relations building is almost three-quarters finished, and the next four to five months should see its completion. Work has just commenced on the chemical division buildings, which will be completed by June. Plans for a modernized grease works are still in the design stage.

Shell Oil Company, Inc., plans modernization of plant facilities of its Martinez Refinery at a cost of approximately \$650,000 in 1947. Agricultural chemicals will be produced, including insecticides, fungicides, germicides, herbicides, plant hormone sprays, etc. The company has completed its new half-million dollar agricultural laboratory and experimental farm, seven miles northwest of Modesto.

Major project for Shell Development is expansion of research laboratories at Emeryville, at a cost of more than \$3,500,000. Construction has been delayed because of material shortages.

Shell Chemical Company expects to move into its new office building at Shell Point, near Pittsburg, early in February. Work is now 90 per cent complete on its expansion of production facilities for ammonia and ammonium sulphate manufac-

ture at Shell Point, and new units will be in operation early in February. The combined expansion at Shell Point cost \$1,000,000.

Tidewater Associated Oil has started its \$2,000,000 modernization project at Avon, near Martinez, and expects to have the job finished by the middle of the summer. Foundation work is complete and fabrication of the towers is underway.

### Electrical Manufacturing

General Electric's West Coast apparatus manufacturing will be centered in the Bay Area upon completion of three projects. The units involved in the expansion are the original East Fourteenth Street plant in Oakland, the San Jose motor plant, and the proposed new San Jose factory for which a new site has been purchased and CPA approval already granted. The factory will produce industrial manufacturing equipment.

Present plans call for work to start on the first two projects by late spring of this year. The new San Jose factory may be delayed beyond that because of material shortages. The Oakland factory will be enlarged, with some \$200,000 going for plant expansion and \$527,000 for new equipment. Wire and cable and fluorescent ballast manufacture will be expanded by a \$652,000 expenditure. G.E. plans to manufacture insulated cable for its electric blankets at the Bay Area location.

Westinghouse Electric, which completed most of its major Bay Area property expansion prior to war's end, has just taken over a long-term lease on a three-story building at 410 Bush Street, San Francisco, which will be remodeled into modern swank centrally-located quarters for district and local headquarters offices of the company.

Westinghouse, which has never before manufactured electric home heaters, has centered its production of the new lightweight, portable, home heaters entirely at the Emeryville factory — a feather in the Bay Area's cap. At present, distribution is confined to the Pacific Coast states, with Oregon and Washington getting the lion's share of early production.

Also scheduled for production expansion is the manufacture of electric water heaters at the Emeryville plant. Production was resumed in 1946, and will be increased as materials become more easily available.

### General Manufacturing

Fibreboard Products tops the list of industrial expansions in the general manufacturing field in the Bay Area, with its \$24,000,000 project, which includes a new two-machine board mill and converting plant on the San Joaquin River, near Antioch; the new Antioch plant of Glass Containers, Inc., for manufacture of glass bottles and food jars, already well advanced in construction; and the new power



plants at Stockton and Antioch. The new board mill is expected to be in operation by 1948. The company has purchased 95 acres on the mainland and a 155-acre island in the river for the new plant.

The Paraffine Companies, Inc., have the next largest expansion at their Emeryville plant, where some \$4,500,000 will be put into increasing production of building materials. American Radiator & Standard Sanitary Corporation have purchased acreage in the Parr-Richmond industrial tract where they will erect a \$3,500,000 plant.

Rheem Manufacturing Co. has just completed purchase of a 56-acre industrial site north of its present Richmond plant for future expansion as conditions require. The present Richmond plant is still in the process of enlarging and modernization. When the present program is completed, Rheem will develop plans for the new site.

Marchant Calculator Co., Oakland, is expanding facilities at a cost of \$1,500,000 and Pacific Can Co. will enlarge its Sacramento facilities to the tune of \$1,000,000.

Down the San Francisco peninsula at San Jose, the Blaw-Knox Corp. of Pittsburgh, Pa., has purchased a 26-acre site for food processing and road building equipment plant to cost \$1,000,000. Also in the equipment field are the Gar Wood Industries' \$750,000 earth-moving equipment plant to go in at Sunnyvale, and the Woolridge Mfg. Co. \$400,000 Sunnyvale expansion in earth-moving equipment.

The recent purchase by International Harvester Company of the Stockton plant of Moore Equipment Company revealed that International plans to manufacture new sugar beet mechanized equipment there.

### Trailer Manufacture

Fruehauf Trailer Co. will spend \$500,000 on its San Leandro plant which will cover 26 acres, as well as \$175,000 on its trailer manufacturing plant in Sacramento. At Berkeley, the Trailmobile Company has enlarged its manufacturing facilities by \$300,000, while down the Peninsula at Redwood City the California Body & Trailer Mfg. Co. plans to establish a plant which will employ between 100-150 persons.

### Food Industry Plants

Campbell Soup has moved into Western manufacturing for the first time with a \$4,000,000 soup plant on 130 acres at Sacramento; H. J. Heinz Co. completed its new \$1,500,000 new cannery at Tracy; Butler Packing Company, which started in 1946 with a \$1,000,000 expansion at Oakland, had to increase it another \$500,000 to accommodate demand; International Mineral & Chemical Co. plans a \$1,000,000 monosodium-glutamate plant using sugar beet pulp, at San Jose; Sperry division of General Mills, has started a

\$2,000,000 breakfast food plant at Lodi; and Beechnut Packing Co. entered the West for the first time with an \$800,000 baby foods plant announced for San Jose; and Leslie Salt plans a total Alviso works expansion of \$1,075,000 — only to name those food concerns which have new plants or expansions of nearly \$1,000,000 or more.

### Public Utilities

The Pacific Gas & Electric Company began construction of its \$160,000,000 postwar backlog of new facilities during 1946, and during the past year completed \$45,000,000 worth of facilities. Ahead for 1947 is a \$60,000,000 expenditure, with an equivalent amount to be spent in 1948. But as it looks now to the company, additional expansion will have to be carried on after 1948 to meet the expanding needs of growing California in all lines — industrial, farming, commercial and residential.

One of P.G.&E.'s biggest expansions has occurred in San Francisco, where \$25,000,000 went into expanding its steam plant five times the present capacity to meet current demands and have adequate facilities available for planned industrial expansion.

Two new hydro-electric plants on the Mokelumne River in Northern California will account for another \$25,000,000 expansion when completed.

Pacific Telephone & Telegraph Company is engaged in an unprecedented construction program throughout Northern California as well as Nevada. It includes erection of new buildings and building additions, installation of more cables, more switchboards, and more of everything necessary to enlarge its telephone plant. During 1946 the program aggregated more than \$44,000,000 in gross plant additions, and some \$82,000,000 is visualized as the approximate total which will be spent in 1947 for increasing facilities.

### Apparel City

February will find first occupants in the ultra-modern \$7,000,000 Apparel City center, construction of which was begun in 1946 and will be carried out over the next two years. It will bring the leading garment manufacturers and designers in San Francisco into a centralized "needle trade" operating center.

### Pattern For the Future

Northern California's postwar pattern of industrial growth and future seems to have been well-established during 1946 — with just as great things ahead for 1947. A note of prestige for the area was added when Ford Motor Co. announced that Western headquarters would be established at Richmond for all Western operations, contrary to the general pattern of selecting Los Angeles as the future Western automobile center.



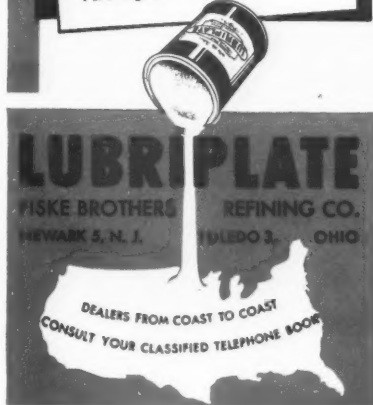
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## REGIONAL REVIEWS

### TEHACHEPI TO TIJUANA

**L**OS ANGELES—Back from a flying trip through Eastern mercantile centers, a trade commissioner of the Los Angeles Chamber of Commerce brings a suitcase-full of valuable ideas gleaned from personal contact with the people who represent the West's potential market beyond the Mississippi.

Though slanted toward merchandising, his report has many nuggets of information of great importance to Western manufacturers—although perhaps not particularly salving to their pride. Here are some of the most salutary:

1. Pipelines are fast filling up. Most stores intend to buy in 1947 in small dribbles, keeping their inventories down.

2. Many Western manufacturers are upon "dangerously thin ice" because of high production and transportation costs, plus difficulty of making frequent close contact with their customers.

3. Most of our Western products are considered "off brands" in the East. Too few manufacturers have advertised their brands heavily and even fewer have advertised nationally.

4. Stores whose buyers have ventured West have a feeling that it may pay local trade to help the well-heeled strangers find hotel accommodations, and otherwise make such buying tours easier. They feel, too, that "if your manufacturers want to sell us, they know our address"—indicates a need for aggressive promotion and a go-to-the-mountain technique, something not too well apprehended by many "war-baby" firms that never had to go out looking for customers.

#### Poor as Merchandisers

Other Eastern reactions to Western products were that the makers seem better designers and producers than merchandisers; that they need to exercise better control over their distributing agents, including those who make impossible promises; that a product must *be* up-to-date, must be *kept* up-to-date, and must be widely advertised to the consumer, else Eastern wholesalers and retailers have a hard time selling it; also, that too many goods reach Eastern markets in damaged condition because of poor packing; that some manufacturers fail to do such simple things as

placing the order number and department number on each shipment; and that Western factories aren't making the sales they should be making to national chains because they have been aiming at the high-style, high-price group and are offering gadgetry, rather than staple items, for the mass markets.

One of the biggest bulges on this area's war economy is coming back to shape again. Nowhere did the newly hatching industrial chick have more difficulty picking its way out of its shell than in the Long Beach-Los Angeles Harbor area, where housing and transportation pinched tightest and the biggest influx of shipyard and aircraft workers was concentrated.

A drastic readjustment has been in swing for months, paralleling San Diego's severe postwar pains. Job opportunities have hit an all-time low. The California State Department of Employment says virtually the only hiring being done is for replacement purposes.

Many people are having to commute to new jobs in distant parts of the country, for they can't move nearer because of the housing shortage—a neat reversal of the war-time situation, when ride clubs were coming daily from points as much as 100 miles distant.

Turnover, the Department notes, is decreasing because workers realize that jobs



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are too scarce to permit the luxury of indiscriminate shopping. However, job applications have dropped off nearly 8,000 in the past two months and at latest reports were down to a total of about 13,000.

Symbolizing this levelling-off is the demolition of the nearby Maritime Commission shipyard of Consolidated Steel and return of the 100-acre Wilmington tract to the City of Los Angeles under terms of its war-time loan of the property. This once-barren sandbar became the site of a \$13,000,000 plant that turned out 17 frigates, Navy escort vessels, and 32 attack transports before workmen recently began levelling its acres of scaffolding.

Passing of Consolidated Steel itself, a much older landmark of the West, appears to be in the cards as stockholders consider a proposal for purchase of the busy enterprise by Big Steel's subsidiary, Columbia. The offer sent Consolidated stock zooming within three days to nearly double its previous price.

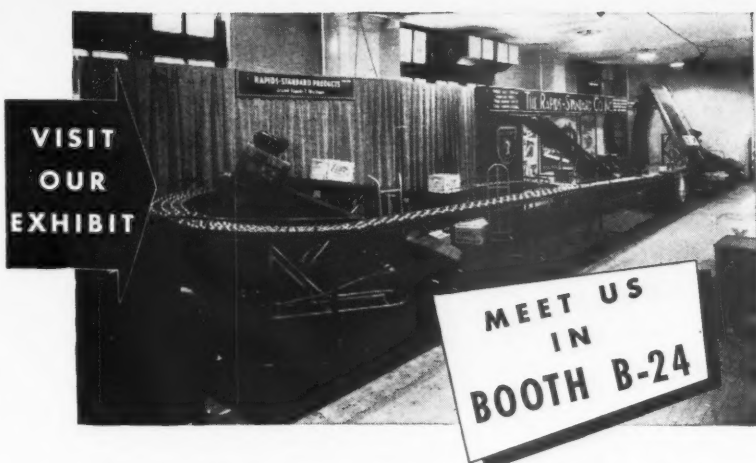
Pessimism is not universal in the harbor area, for employment there is still almost 100 per cent greater than before the war. New industries now locating in the area expect by 1947's end to have 5000 workers employed in automobile assembly and in production of rubber goods, soap, garments, floor coverings, and other items.

Part of this activity is to be at Kaiser-Frazer's plant adjoining the Long Beach Municipal Airport, where assembly lines in two huge buildings are nearing completion and trackage connecting with Union Pacific has been laid. Company officials say the plant will be geared to output of 400 Kaiser cars per day and that it should start rolling by March or April, or as soon as enough parts are available to supply all four production lines at Willow Run.

Meanwhile, Kaiser's steel mill at Fontana continues to grow, while its furnaces roar full blast, 'round the clock. Plans for enlarging its line substantially in 1947 hinge upon delivery of needed machinery, but major additions in progress are (1) the only pipe mill west of the Mississippi, with capacity for standard butt-weld pipe from 1/2-in. to four inches in diameter, critically needed for home building; (2) a cold-rolling mill for turning out strip from 16 to 31 gauge with maximum width of 31 in.; and (3) equipment for cold-drawing finished steel bars in rounds up to 4 1/2 in. and in flats, hexagons, and squares, for use by machine shops and makers of shafting, screws, etc.

Legal struggles continue in the suit for control of the Iron Chief mineral claims, largest known iron ore deposit west of the Mesabi range in Minnesota and located 130 miles southeast of Fontana.

The two partners who had control of the deposit are in litigation concerning its true value, one partner having arranged sale of the leasehold to Kaiser for \$1,132,-



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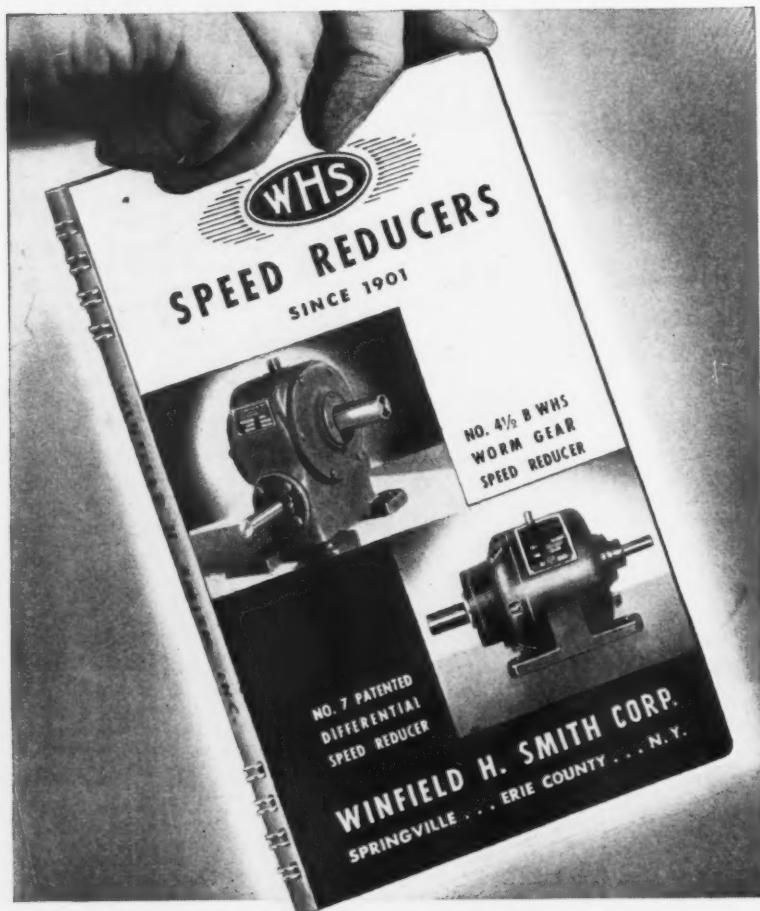
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811, while the other claims that it is now worth more than \$9,000,000 because of the rapid industrial growth of the West and the technological development which has brought Western oil cokes to the fore as substitutes for coal cokes in electric smelting furnaces.

The battle is a fitting new chapter in the career of the Iron Chief, which figured in another historic battle of tycoons when railroad king Harriman bought it as protection against 19th-century steel operators who supplied him with rails for his empire.

Now its estimated 100,000,000 tons of ore—enough for perhaps 50 to 75 years' production—passes into the hands of another Western expansionist who also has pitted himself against Eastern giants. Local observers await with interest the day when steel from Fontana may be turned by Kaiser directly into local manufacture of Kaiser cars, enabling him to sell his automobiles here for something near the Detroit price.

New impetus to the movement toward assembly of automobiles in this area is currently expected to result from the increase in freight rates, since it is cheaper to ship cars knocked down than already assembled.

Soon back in production will be the Willys-Overland Pacific Coast plant, converted during the war to aircraft sub-assembly. Executives from Willys headquarters are here to re-establish production at Maywood, where 1947 plans call for an eventual output of 100 units per shift. All cars and trucks of the Willys-Overland line are to be assembled here, including the universal jeep, jeep station wagon, two- and four-wheel drive trucks, and the new six-cylinder Willys passenger car whose debut is scheduled for this year.

A minor teapot tempest fizzled up when War Assets Administration nationally advertised for sale the equipment of the former Alcoa aluminum reduction plant, presumably for removal elsewhere. Civic pride naturally rebelled, although those with long memories well recalled that the plant was erected during the war with full knowledge that in normal times, it would be a high-cost producer and could not be expected to compete favorably with other areas.

The Chamber of Commerce and the mayor both pointed out that (1) Oregon and Washington plants could ship aluminum pig here more cheaply than it could be produced locally; (2) Boulder Dam was built on a business arrangement with the Federal Government, which does not subsidize it; and (3) it is not good policy to encourage a local industry which requires subsidy. Anyway, they added, basic aluminum production would employ far fewer workers per kilowatt-hour than if the power were spread among other types of industry.

Last year the giant Torrance aluminum



plant was stuffed to the ceiling with government war surplus. Amazing strides toward clearing it of these materials have been made by WAA, but remaining still are long rows of machine tools, some of them uneconomic and suitable perhaps only for export, others still of a type that could well be used in this area.

WAA machinery men hope to encourage interest by manufacturers in bargain shopping, inducing them to add specialized equipment with a view to meeting Eastern competition. In normal times, they point out, special tooling may mean the margin between profit and loss on highly competitive products.

Ultimate fate of the huge Torrance plant, with its 700-foot-long bays, superbly adapted to warehousing and to some types of manufacturing, is a matter of much local speculation. Stripped of its special equipment for aluminum reduction, it may become the site of another "multiple tenancy" operation, with a number of small manufacturers sharing the key facilities in common.

Right across the road, where aluminum pigs from Alcoa pot lines were hustled to the former Bohn plant's extrusion presses to be squirted into forms used in aircraft components, Harvey Machine Company has been busy on various hardware items. Now it has been permitted by the Navy to take the wraps off another product, a double automatic rocket launcher, with an aircraft nose installation that can fire 5-in. spinner rockets out of two barrels with machine-gun rapidity.

Year-end statements of major aircraft firms showed the expected re-tailoring to peacetime earning levels, and comments by company officials exuded caution.

Lockheed, which was in the red in 1946, abandoned its Saturn small transport project and President Bob Gross warned of drastic reduction of the company's basic engineering and tooling staff unless substantial government backing can be obtained for development work.

North American showed a loss for the fourth quarter but now is advertising for 1000 production workers to meet new schedules for the four-place Navion family plane and current military contracts. Douglas is seeking 1200 more employees for its DC-6 program, and Menasco just received from Glenn L. Martin the largest commercial-plane landing gear contract ever signed.

Menasco, by the way, issued an annual report which is one of the finest pieces of enlightenment for stockholders yet seen around here. With charts, photos, and detailed accounts of plans for the company's production, it gave its readers a clear and understandable picture of the plant's operations and aims—a move which should do much to bring the average stockholder, long the forgotten man of industry, into the management team.



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## REGIONAL REVIEWS

### THE PACIFIC NORTHWEST

**P**ACIFIC NORTHWEST — Pacific Northwest Development Association, a business group organized originally to oppose the establishment of a Columbia Valley Authority by the federal government, has expanded its aims without removing the emphasis from its original principle.

#### Want More Industry

At a directors' meeting of the organization last December an eight-point program was adopted calling for "further industrialization of the Northwest by the processing of more raw materials into finished products within the region," and "preservation of private enterprise against further government ownership and operation of private business."

This constitutes the second instance within a year that Northwest industrialists have indicated an awareness of a need to propagandize the advantages of private business, the first being the appointment of George Rideout, former Washington representative of the National Manufacturers' Association as editor of the publication "Free Enterprise."

With the removal of price ceilings several months ago there came also an automatic solution to a situation in the lumber industry which had particularly puzzled the state governments with timber for sale.

In Washington, where state-owned timber lands are sold regularly six times a year it had been difficult if not impossible to consummate such sales, for all bidders invariably offered ceiling prices. The state could find no means of selecting a purchaser, and the Office of Price Administration refused to permit sales at higher than ceiling prices.

#### Lumber Prices Way Up

During the past two months bid prices have set new highs for every species. On sales of a quarter billion board feet in December the average price for all species was about \$10 per thousand board feet. High bid prices for various species include \$22.11 for Douglas fir, \$16.20 for red cedar, \$14.35 for sugar pine, and \$10.25 for Western hemlock.

It is interesting to note that in 1934 Western hemlock logs were selling for \$7 to \$9 per thousand board feet, whereas

**SPOKANE**—The American Chrome and Magnesium Industries of New York City made the top bid of \$8,000,000 for the \$20,000,000 war surplus magnesium plant at Mead, Wash. In its bid opened at the Regional WAA Office and signed by Alvin H. Wile, president, the company said it preferred to rent the plant, however, for five years beginning July 1. It offered rental scaling from \$300,000 to \$425,000 per year or 5 per cent of the gross. The company's purchase offer was \$1,000,000 down and \$350,000 a year for 20 years. . . . American Chrome also had the high bid of \$1,000,000 for the ferro-silicon plant at Rock Island, Wash., but put down a five-year rental plan as its first choice. . . . The only other bidder for the magnesium plant was Morley & Associates, Seattle, Wash., \$6,561,400. . . . The Cascade Alloy Corp., Canton, O., bid \$365,000 for the ferro-silicon plant or a five year lease. It proposed to manufacture chrome, nickel and pig iron from mines at Blewett Pass, Wash. . . . R. H. Russell, Spokane, put in a salvage bid of \$10,100 for the Rock Island plant.

the current price is running between \$30 and \$35. Twelve years ago Western hemlock stumpage was almost unsalable, but now lumbermen are offering to pay as much as \$10.25.

In spite of the fact that it is conceded that present bid prices do not necessarily indicate immediate production or relative

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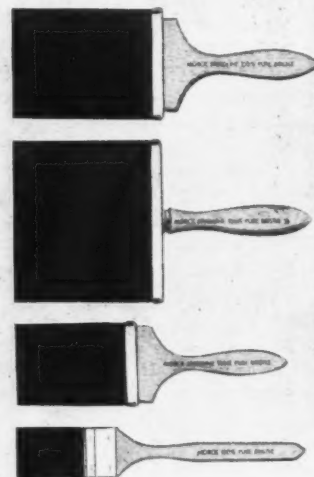
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cost of cut timber, it does seem apparent that the lumber industry will see continued high activity during the year, probably more activity than during 1946.

Indicative of this are statements from the West Coast Lumbermen's Association and the Western Pine Association. H. V. Simpson, executive vice president of the West Coast Lumbermen's Association, announced recently that in November the lumber output in Washington and Oregon overtook, and passed by 97,000,000 board feet the production during the first eleven months of 1945. Simpson added that, "... this leads logically to the expectation that 1947 production will be even greater."

S. V. Fullaway, Jr., secretary-manager of the Western Pine Association, reported that the estimated regional production of 5,860 million board feet not only exceeds that of any year prior to 1941, but equals the average annual output of the five war years 1941 to 1945 inclusive.

In forecasting for this year, Fullaway said, "Based on general factors and all other available information, it now seems probable that during the first quarter of 1947, shipments of lumber by the western pine industry will approximate 1,200 million board feet or about 25 per cent more than the same 1946 quarter."

### Simpson Signs With Govt.

One of the more favorable indications in the lumbering field was the signing in December of the first sustained yield agreement between a government agency and a private operator. The Simpson Logging Co. of Shelton, Wash., and the U. S. Forest Service completed the formalities of a contract which had been under consideration for some time.

SEATTLE—Pacific Associated Products Co., headed by R. A. Blanchard as president, has announced that it will construct a plant adjacent to the Fisher Flouring Mills Co. on Harbor Island for the manufacture of dextrose sugar, gluten, and glucose. Raw materials for the new process will include waste products from the flour mill, and some grades of wheat low in gluten. Plans call for piping gleanings, waste flour, and other forms of starch not adaptable to the manufacture of high grade flour from the adjacent flour mill into the new plant for conversion into various forms of sugar.

Adhesives Bonding Co., owned and operated by J. L. Ittes, is constructing and will place in operation a new plant at the site of the former Tregoning Boat Co. Principal product of the company will be a lamina consisting of a plywood core sheathed with aluminum, an operation that depends upon a special bonding material for success. The product is expected to be used in farm buildings for improved sanitation qualities, truck bodies, kitchen equipment, and aircraft.

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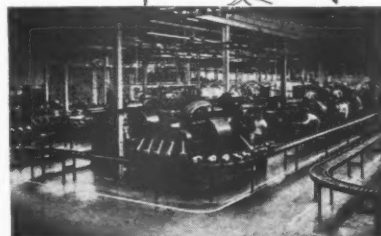
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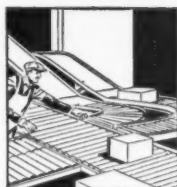
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By the terms of the contract Simpson will log some 11,000 acres of its own land and 158,000 acres of national forest land on the Olympic Peninsula at a rate which will permit continuous harvesting of mature logs.

The contract, which will extend for a 100-year period, is considered to be a forerunner of many similar contracts. The Oregon-California Revested Lands Administration is reported to be planning 12 public-private sustained yield agreements in 18 counties of western Oregon. Generally speaking, the establishment of these sustained yield agreements are considered to be definite moves toward establishment of a permanent lumber industry, although there is considerable opposition within the industry to the type of agreement consummated for the Shelton area.

Expansion of existing wood product plants and establishment of new plants indicates that lumber will continue to be the leading resource of the Northwest for a long time. At Longview, Wash., Weyerhaeuser has begun the construction of a new million-dollar plywood plant which is expected to be in production this fall with an annual output of about 80,000,000 board feet in all grades of plywood.

KOAGAP Lumber Industries, a newly formed organization which completed construction of its sawmill at Medford,

**TACOMA** — General Construction Co. has been awarded a \$1,000,000 contract by the Permanente Metals Co. for rehabilitation of the aluminum reduction plant here, recently purchased by Permanente from the War Assets Administration. Work on the rehabilitation of the plant, which has been out of operation since the end of the war, began last month, and is expected to be completed in March when production is scheduled to begin. An estimated 40,000,000 pounds per year of aluminum pig will be produced at the plant and shipped to Spokane for rolling.

St. Paul and Tacoma Lumber Co. has purchased the Northwest Veneer Co. of Olympia, and will operate the new acquisition as its plywood division. It is generally believed that the new owner is planning extensive improvements in the plant, but no announcement has been forthcoming as yet.

Ore., a month ago, placed a successful bid for 49,000,000 board feet of timber in the Rogue River national forest, and will begin logging on a sustained yield basis this year. At Pullman, Wash., plans have been announced by Dr. Wilson Compton, president of Washington State College, for the establishment of a pine forest nursery at the college. This would be the only pine nursery in the state and would develop pine species best suited to the Inland Empire.

St. Regis Paper Co. has announced plans for the enlargement of the pulp plant at Tacoma, Wash., to include a paper bag machine as well as a paper machine. First phase of the expansion program is the installation of a hydraulic drum barker, for which buildings will be erected this year. It will permit the use of relogged and waste timber, and result in a saving of 20 per cent of the wood now being wasted.

Among other plans announced for different wood products is the construction of a remanufacturing plant and furniture plant by the newly organized Cascade Forest Products. Construction of the first unit of the plant was started at Bend last month.

Increasing demand for treated timber has been foreseen by timber producers, and is evidenced by the new construction of treating plants. At Longview, Wash., the new treating plant of Weyerhaeuser is nearing completion despite slow delivery of materials.

At Everett, Wash., the American Lumber and Treating Co. has begun construction of a treating plant capable of handling more than 1,000,000 board feet per month. The plant is being built adjacent to the Everett plant of the Weyerhaeuser Timber Co., and will be the second Northwest plant for American Lumber and Treating, one plant having been in opera-

## THE FORWARD LOOK . . .

There is an old proverb: "Nothing is certain except change" . . . When the change marks progress, it is good news. Such is the situation at Adhesive Products Company—the West's largest adhesive resin plant. In 1945 a phenol-formaldehyde manufacturing unit with a million pounds monthly capacity was completed. In 1946, Adhesive became affiliated with the American-Marietta Company of Chicago. As 1947 begins, a \$500,000 plant expansion program is under study . . . Intensive research work on new products is constant. Expanded technical and engineering departments make possible increased service to a wide field of industries utilizing adhesives, synthetic resins and molding compounds.

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tion for a long time at Wauna, Ore., near the mouth of the Columbia River.

Among other timber product expansions are a \$100,000 expansion of the Keith Brown Co. at Salem, Ore., to include a resaw plant and drying kilns; construction of a box factory at Walla Walla, Wash., by C. H. Hooper, who began the business about a year ago in a home cabinet shop; and construction of a lumber processing plant at Thompson Falls, Mont. A pole treating plant that has been under construction at Troy, Mont., began operations last December, but will not be in full production until spring.

Still in the timber field, the production of alcohol from wood wastes keeps popping up in the news. War Assets Administration announced the sale of the Bellingham plant to the Puget Sound Pulp & Timber Co. at a price of \$450,000, about 44 per cent of the original cost of the plant to the government.

That Puget Sound Pulp & Timber is more than satisfied with the operation of the plant was indicated by the company's announcement, immediately following the sale, that improvements costing up to \$100,000 will be made to the plant. The new expenditures are planned to replace wooden equipment with stainless steel, and expansion of the operations to include manufacture of denatured alcohol.

Waste sulphite liquor from the wood pulp production is processed in the plant to produce ethyl alcohol and by-products of methanol and fusel oil, of which only the latter has had any commercial value to date.

Average monthly production at the plant over a 21-months period has been 131,461 gallons of 190 proof ethyl alcohol, but during August and September of 1945 production exceeded 180,000 gallons

**PORTLAND**—Jantzen Knitting Mills has announced plans for establishment of a branch factory across the Columbia River at Vancouver, Wash. A nine-acre site has been purchased from the Federal Public Housing Authority, and four existing buildings will be remodeled to provide temporary factory and office facilities. The new plant will permit expansion of the winter sports and swim suit divisions of the company, and eventually will be housed in a new and permanent structure on the site.

Montgomery Ward & Co. is planning to construct a new \$2,500,000 warehouse on a 14-acre site in the Guilds Lake area. The site is that of a former public housing project. Final plans for the building have not been completed as yet, and approval of the Civilian Production Administration for the construction has not yet been granted.

CPA approval has been granted to Fibreboard Products, Inc., for construction of a \$563,521 plant for the manufacture of folding and set-up containers for packaging fresh fruits and vegetables and frozen food products.

per month. Use of the sulphite liquor for the production of alcohol not only has produced a valuable product, but in some measure relieved a serious waste disposal problem, as the waste sulphite is of a highly corrosive nature extremely toxic to wild life.

According to a report from Washington, D. C., three large industrial groups investigated major pulp-timber stands in Alaska last summer, the first interest which has been shown in this development since earlier plans were dropped with the advent of the depression in 1930. Officially, the forest service has surveyed half a dozen blocks of pulp timber which could be made available to the public, and the in-

terior department has completed a survey of power prospects in the territory.

The next logical step would seem to be the making of definite moves to establish pulp plants in Alaska by private interests. At least one Congressman has indicated that the federal government itself might step into the pulp production field there, if private industry appears to be reluctant to do so.

A venture into the pulp and paper field by a group of West Coast newspaper publishers is expected to be in operation within a month or so. For some time overhauling and expansion of the old Cascade Paper Co. plant at Steilacoom, near Tacoma, has been in progress. Originally the plant



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was intended to be in operation by the middle of February, but delayed material deliveries will probably set back operations more than a month. The plant is to provide an independent source of newsprint for 10 western dailies which have been working under limited supplies for some time.

Whether or not the publishers will find the paper making field worthwhile, even as a source of supply, appears to be somewhat questionable, since a number of publishers who have previously made the experiment have backed out after trials of various lengths. The Cascade plant has not been in operation for about 10 years.

Attitude of the new Congress toward the Bureau of Reclamation, Army Engineers, and Bonneville Power Administration will be watched with particular interest by all of Northwest industry during the next few months. Present power consumption has returned to a rate nearly equal to that of the past few war years, and resulted in an electrical power demand dangerously near to the total installed capacity.

The peak demand period is now safely over, or nearly so, without any of the calamities previously predicted by the Bonneville Power Administration having come true, but a number of steam generating plants which had not been used for some years were pressed into service.

Industrial requirements this winter have

**SPOKANE**—In six months of operation the Permanente Metals Corp. has produced more than 80,000,000 pounds of finished aluminum in the form of plate, sheet, and strip at the Trentwood rolling mill. According to Permanente, the mill has exceeded monthly production schedules since operation began last July, and the plant is now producing beyond designed capacity. Expansion plans for the mill, now being considered, include addition of fabrication facilities to produce corrugated sheets, extrusions, and other finished products.

John Deere & Co., farm machinery manufacturers of Moline, Ill., have purchased the assets of the Lindeman Power Equipment Co., of Yakima, manufacturers of a hydraulic tool bar for tractors, mechanical hop pickers and other farm machinery. Some expansion of the existing plant is expected to be made under the new ownership.

not been as great as they will be next year, however, unless something drastic happens to the aluminum industry which is one of the principal electric power consumers. During the peak load months, the Permanente aluminum reduction plant at Mead, near Spokane, has been in production with only 67 to 82 per cent of its total power requirements, the Reynolds plant at Troutdale, near Portland, has been drawing only 50 to 75 per cent of its ultimate power requirements, and the Permanente plant at Tacoma (formerly the Olin plant) has not been in operation at all. Presumably

all of these plants will require their full power demand next winter.

If plans of the American Chrome & Magnesium Industries go forward as expected, it seems likely that additional high power demands will be forthcoming by next winter from the magnesium reduction plant at Mead, near Spokane, and from the ferrosilicon plant at Rock Island, near Wenatchee.

Consequently, if the new Congress adopts a policy of no appropriations for new construction toward power production and distribution projects of the Bureau of Reclamation, the Army Engineers, and the Bonneville Power Administration, succeeding years are likely to see industry in this area faced with a serious power shortage.

News reports from Washington, D. C., in December attributed threats of Congressional action against Bonneville, if the Administration refuses to grant to power companies controlled by Electric Bond & Share long-term contracts for distribution of government generated power. Although local representatives of Electric Bond & Share controlled companies denied any plans for construction of steam plants in the Northwest or any plans to apply pressure in Congress for a raise in Bonneville rates, it is a fair gamble that privately owned power companies are giving serious thought to some means of meeting the demand for electric power in the Northwest.

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## REGIONAL REVIEWS

### CONTINENTAL DIVIDE

**D**ENVER—With the year 1947 off to a running start, businessmen in the Rocky mountain area who had their fingers crossed all last year are beginning to think that they can go ahead and do business without forever worrying about that post-war slump.

Few, if any, are making real progress in putting plans into action but quite a number now are making plans and the others are thinking maybe some planning for new business would be a timely step.

It is the old time-lag, with the Rocky Mountain West always a good six-months behind the rest of the country in reacting to changed conditions, whether good or bad. The inland West learns soon enough, by press and radio, but it doesn't do anything about the new situation until there has been plenty of time for the facts to percolate through minds that won't be stamped.

The businessmen who take advantage of their knowledge of this psychological time-lag can clean up time after time. Politicians, too, play on it.

#### Break for Leftists

Speaking of politics, the emergence of the Denver Post under the leadership of its vigorous new publisher, Palmer Hoyt, has given the left-wingers their best break in many a year. Not that Hoyt gives the Post's backing to the so-called liberals. Instead, he gives them a hearing.

Guest editorials in the Post are written by everybody, including the Farmers Union's hard-hitting Jim Patton and the Roosevelt Democrats' Gene Cervi. In the old days, such views simply were not heard by the general public in the mountain and prairie states. They were not allowed in the Denver Post, and were equally unwelcome to the smaller editorial mentors of the area. It is too early to see what the effect of the widely-read Post's new editorial policy may be, but followers of the status quo are worried.

#### Tariff Talk Again

Efforts to give further tariff concessions to an important group of America's allies in the recent war are sure to produce loud and agonized yells from the raw materials producers of the mountain and prairie states. As usual, they will do their yelling at different times and places and in such an obviously self-seeking manner that even the average Westerner will feel like saying, "Aw, dry up!"

The fact that the woolgrowers, the copper producers, the oil men and all the other producers of raw materials have a legitimate and important side of the argument is seldom appreciated by the public,

chiefly because the strategy of the high tariff advocates is so bad.

Those who see their blunders and could set them straight evidently are on the other side of the fence from an ideological point of view, and hence show no willingness to step up and show the awkward amateurs how to hold the bat. If they ever do learn how to bat, it may be very serious for the nation and the world, because the raw materials people and their natural allies in this nation could easily out-weigh and out-vote any other bloc or group.

#### Zackendorf's Denver

Remember when Henry Kaiser came to Denver, talked big and aroused high hopes (before he pulled out and left exactly nothing to show for his wartime sojourn in the Queen City of the Plains)? Now Denver has another big-shot toying with its heart strings, promising the world on a silver platter plus a Hollywood contract and a lush mink coat.

This time it is the great William Zackendorf, whose schemes and dreams make Henry Kaiser's seem puny and unimaginative by comparison. Having wangled a deal with Denver's sleepy and aged mayor, Ben M. Stapleton, whereby the city's only downtown park was purchased by the New York firm of Webb & Knapp, the great



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Zackendorf now is wondering what to do with the choicest bit of real estate anywhere in the city of Denver.

What Webb & Knapp's enterprising Mr. Zackendorf did in solving the United Nation's quest for a headquarters site is on the record. What he plans to do at Flushing, Long Island, is now being detailed extensively—a \$50,000,000 retail center, at least. His East River project in New York City called for \$100,000,000 before the site was sold to John D. Rockefeller for the United Nations home.

He still has a \$3,000,000,000 (yes, three billion dollar) plan for "Skyways Unlimited" across the river from the new United Nations home, which may have been upped to twice that figure since the New York slum area bought for Zackendorf's dream city-within-a-city has been taken over by the United Nations as the capitol of the world. Mr. Z. admits that his airport site isn't much good, because of wind and fog, but that hasn't kept him from advancing some big talk about the scheme.

Just what this super-builder plans for Denver is not quite certain. When he is interviewed in New York he says something about a shopping center and goes on to talk about more exciting enterprises.

But Denver is sure it is going to get a skyscraper hotel with a big department store occupying part of the "huge" building, not to mention offices and two radio-and-television stations. If and when this

is done, much of downtown Denver will lift up its skirts and hike several blocks east and south toward the State Capitol and Civic Center.

A score of major real estate transactions have been closed or hinged on the Zackendorf deal, and there seems no doubt that if Webb & Knapp do put up some fancy structure on Court House Square there will be a building boom such as Denver hasn't seen for more than 20 years. Many of the big building projects are quite independent of the Court House Square development, and will be started as soon as materials are available.

### Republicans Up

Nobody was surprised to see Colorado's U. S. Senator Eugene Millikin emerge as one of the key men in the Republican-dominated Congress. His star has been rising steadily for several years, despite the fact that even his friends in Denver shook their heads and clucked despairingly when he was appointed to his first Senate term by the former governor, Ralph L. Carr.

But Millikin knew law and he knew business; he is rich and has valuable Washington contacts, partly because his wife is the widow of a former U. S. Senator. All this adds up to nothing too impressive, yet everyone coming back from Washington speaks in almost awed tones of the standing Millikin has attained among his colleagues in the Senate.

Some other Republicans emerged with impressive offices just because they had been around Washington long enough to attain a bit of seniority, of course, and of these a few happened to be Westerners. We could use a few more.

The newcomers in the Senate include Montana's Zales N. Ecton, Idaho's Henry C. Dworshak and Utah's Arthur V. Watkins. Of these, Watkins seems to be best qualified to swing into action on behalf of the West's favorite projects while giving a good account of himself on broader issues.

Dworshak will be a pal to the hunters and fishermen, and will be a regular Republican on most issues, as he was during his four terms as congressman. Montana's Ecton is the sort of Republican who is against Communism, Socialism, the Columbia and Missouri Valley Authorities and a lot of other things but has difficulty explaining what he is for, if anything, so he can be put down as another "regular."

### Livestock Center

It was a \$200,000,000 year at the Rocky Mountain region's largest livestock market—the Denver stockyards. Approximately 4,000,000 head of livestock were handled during the year 1946 at Denver. Of these, 1,500,000 head were slaughtered in Denver's 10 major packing houses. During Stock Show week in January more than \$5,000,000 worth of stock changed hands.



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### Straws in the Wind

Indicating the great diversity of industrial progress in the Rocky Mountain region are these news items:

**Great Falls, Montana**—Montana's largest city is ready to swing into an immense development program including new pavements in residential and industrial sections, water mains and storm drainage calling for more than a million dollars each, and civic improvements including a new ice palace.

**Boulder, Colorado**—Organic chemicals used in research and production of drugs, dyestuffs, plastics, insecticides and aviation gasoline are being turned out at a new plant of Arapahoe Chemicals, Inc. First products to be produced are the Grignard reagents. The company was organized a year ago by five graduates of the University of Colorado. So far as is known, this is the first commercial production of Grignard reagents. O. B. Jacobson is plant manager.

**Denver, Colo.**—Half a million dollars will be invested by the American Smelting & Refining Co. in its Globeville plant here. The program includes construction of a new bag house and enlargement and modernization of the pigment and cadmium sulphate plants. Some of the weather-beaten old buildings will be torn down. The plant has produced cadmium for the past 20 years, employing about 150 men and producing about 150 tons a month. Cadmium is used in making bearings and as a non-corrosive plating. It is similar to chromium.

**Pueblo, Colo.**—Industrial employment here increased from 17,084 at the beginning of 1946 to 20,746 at the end of the year, not counting about 2,000 workers employed at the Pueblo ordnance depot. When the Graham-Hoem Plow Company finishes its \$600,000 factory building, it will employ 300 men, with an increase planned for later in 1947.

The industrial secretary of the Pueblo Chamber of Commerce, Col. Robert S. Barr, estimates Pueblo and its immediate environs now has 85,000 population, compared to 52,162 shown for the city by the 1940 census. R. J. Roberts, city building inspector, figures the population within the city's corporate limits is now 82,960.

Pueblo's big industry—the biggest in Colorado and the eastern side of the Rocky Mountain region—is the Minnequa steel mills of the Colorado Fuel & Iron Corporation, which are going great guns.

Those items are just indicative of the growth of industry in the mountain and prairie states. Nothing spectacular—unless

one considers the plans of William Zucken-dorf at Denver as having some industrial significance—but a great many small and middle-sized enterprises, scattered all over the region, show that 1947 is getting off to a flying start.

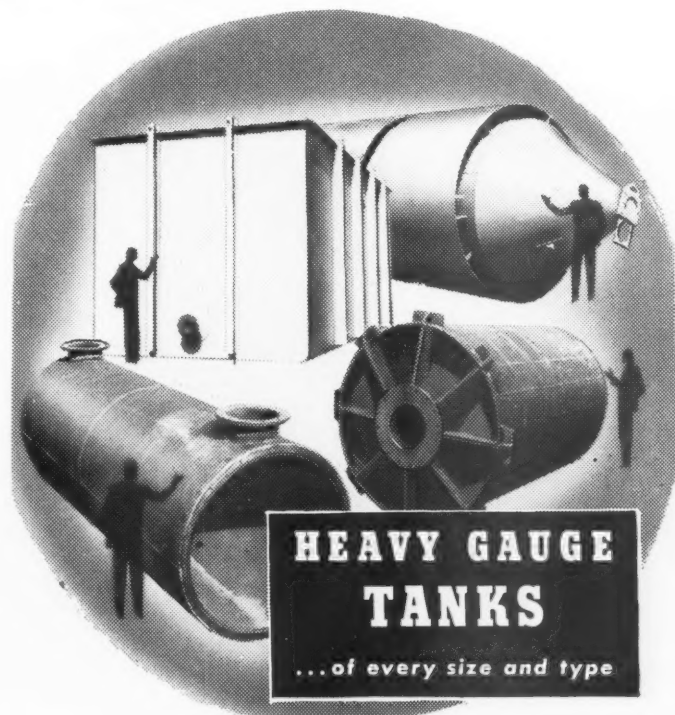
### Denver Post "Empire"

Despite the large number of readers who think the Denver Post's current campaign playing up "the Rocky Mountain Empire" is not too happily named, a lot of interesting information keeps cropping up in the reams written for the big Denver newspaper by Robert W. Fenwick, Rocky Mountain Empire editor.

"Red" Fenwick is an able reporter who has been poking around this Western world with interesting results. After

spending an eye-opening day with the research scientists at Colorado A & M College at Fort Collins, Fenwick wound up a detailed report on the current doings of the miracle workers with this conception of the shape of things to come:

"Some day a Coloradan may arise from his bed at the call of a clock made in Denver, wash his face and hands, then shave with soap made in Fort Collins, and dry his face on a towel made in Colorado Springs and hung on the bathroom wall on a hanger manufactured in Pueblo. He may don a suit made in Cheyenne, Wyo., pull on shoes fashioned in Casper, Wyo., and ride to work in an automobile made in Albuquerque, N.M. It's a fair sized and oddly shaped dream. But dreams do come true—sometimes."



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# REGIONAL REVIEWS

## THE WASATCH FRONT

**S**ALT LAKE CITY.—The Wasatch front area rode into the new year on the crest of the economic wave that continued to rise during the postwar year of 1946—a period in which downward readjustments were generally expected.

But there was an apprehensive feeling that the adjustments had been postponed rather than escaped and that 1947 would perhaps bring some leveling-out of purchasing power through the exhaustion of purchasing power.

On the optimistic side of the picture was the prospect of increased industrial activity in 1947 to support the business level. The mining industry, to cite one example, was depressed during 1946, largely because of a six-month strike, and improvement can certainly be expected there.

Geneva steel plant is steadily increasing its production (to 65 per cent of capacity at the year end) and an \$18,500,000 conversion job is scheduled to get under way there some time during the first half of 1947. And numerous smaller industrial construction jobs are under way or have been scheduled for the current year.

Walther Mathesius, president of Geneva Steel Co., expects to operate the Utah plant at around 80 per cent of rated capacity during 1947. The conversion of the plate mill to production of hot rolled coils for the Pittsburg, Calif., cold rolling and tin plate facilities can be accomplished without any substantial interference with current production.

### Coal a Bottleneck

The market for Geneva's products is more than adequate to permit capacity production but the limiting factor is ability to mine and transport sufficient coal. To operate all three blast furnaces at capacity would require twice the current production at the company's Horse Canyon mine, ore in excess of 6,000 tons daily.

It might be possible to find the miners to boost production to that point but for the present it is not possible to house them at or near the mine site. During the war the government built a complete new town (Dragerton) to house the Geneva miners. But more than 100 of the 600-odd homes were carted away to relieve shortages elsewhere and part of the remaining homes

are occupied by men employed at other mines in the vicinity.

### Utah Gets Industry

Ames K. Bagley, executive secretary of the Utah Manufacturers Association, sums up some of the major new industries which have contributed to the industrial economy of Utah during 1946. They range from wood, mineral, fertilizer, plastics and hard metal manufacture to women's lingerie. The list follows:

**Western Wood Excelsior Manufacturing Company, Cedar City**—a firm producing excelsior from aspen trees. Company plans to double its present capacity.

**Tri-State Minerals Company, Ogden**—a plant processing talc, making powders of various fineness. Company plans call for a complete new milling unit and other facilities to increase current heavy production.

**Utah Chemical & Oil Co., Vernal**—producers of crude oil and hydro-carbon chemical derivatives from asphalt sands which outcrop for many miles northwest of Vernal.

**The Western Peat & Guano Co., Ephraim**—will use material from peat bog for scientifically compounded fertilizer products.

**Nissley, Inc., Spanish Fork**—a plastics manufacturing plant which does specialty

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work including compression molding, hot stamping in various colors and plastic fabrication.

**Morlite Mfg. & Supply Co., Salt Lake City**—makers of a wide assortment of table, vanity, bed and floor lamps.

**The Mathews Silica Company**—producers of fine ground silica flour for use in smelting operations.

**The Superior Metals Alloy Company, Murray**—just now getting into production on a bearing metal of copper-lead alloy which will have a sale from the Pacific Coast to the Middle West automotive centers.

**The Utah Wax Refining Co., Salt Lake City**—makers of special waxes for frozen foods containers which have attracted nation-wide interest. Company plans new plant facilities.

**General Dry Goods Company, Provo**—manufacturers of lingerie. The company which began operations in May will employ 150 or more women when at full operation.

### Jobs vs. Unemployment

In spite of the generally high level of business and industrial activity during 1946, the unemployment compensation pattern indicated a substantial reconversion impact. Benefits for the year approximated \$9,000,000 as compared to only \$590,863 in 1945.

More than half the 1946 outgo was to returned veterans and an additional part of the increase could be attributed to higher weekly payments. In 1945 the average payment was \$19.24 for a period of seven to eight weeks and in 1946 it was \$23.79 for an average period of 11.5 weeks. In the last prewar year average weekly payment was only \$11.37.

Statisticians of the Utah employment security department point out, however, that the 1500 plus percentage increase in unemployment compensation between 1945 and 1946 can be viewed more as a return to normal conditions than as a harbinger of depression.

The number of unemployed who received payments during the last prewar year was 14,500 compared to 11,628 during the year ending July 5, 1946. The abnormal year, as they view it, was 1945 when the number receiving payments reached a low of 212, including 54 war veterans.

The most conspicuous paradox in 1946 was the shortage of workers in the face of a large unemployed group drawing compensation. Much of this disparity arose from the tendency of employers to give marginal workers the "brush off" and the tendency of the workers to treat marginal jobs in the same way.

Utah's nonferrous metal mining and smelting industry appears to have a good chance of escaping this year such disruptive labor disputes as occurred during 1946, when most of the production was

strike-bound for about six months. The contract entered into last year was for two years with a one-year reopening clause on wages.

Negotiations are not scheduled to get under way until spring and by that time the industrial wage pattern is expected to be pretty well established. Both the employees and employers will know about what they can expect and can act accordingly.

Industry and business are viewing with apprehension the 1947 session of the state legislature. Budget requests of state departments and institutions are almost double appropriations for the current biennium. And the unprecedented demands for money can be expected to generate pressure for new or increased taxes.

On the favorable side, from the business standpoint, is the expressed opposition of many legislators to any tax increases. Some of the most "liberal" lawmakers in the past are now taking the position that the upward trend in taxes must be halted or reversed at some point and that the point appears to be now.

### To Lease Phosphate Area

The Interior Department will lease phosphate deposits in southwestern Montana in an effort to relieve the farm fertilizer shortage in the Pacific Northwest.

Deposits are located in 200 acres of Silver Bow County. Area offered for lease is estimated to contain at least a 10-ft. seam of the mineral.

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# LABOR

## AND THE INDUSTRIAL WEST

**T**HE second labor-management conference held in the United States will have its location at the University of California. Professor Clark Kerr, head of the Institute of Industrial Relations at the Berkeley campus, who was in attendance at the first conference held in the fall of 1945, inaugurated by President Truman, contemplates a second conference March 19-21, as part of the University's charter week celebration.

While tentative acceptances to take part in the conference have been made by national leaders in the field of industrial relations representing both industry and labor, the conference arrangements are not yet complete.

Plans now call for a debate and panel discussions which will be given at both the Berkeley and Los Angeles campuses of the University on succeeding days. When final acceptances are received, program and

speakers will be announced by the Institute.

Scheduled to take part in the conference are a U. S. Senator prominent in the labor field, a leading industrialist, heads of CIO and AFL unions, as well as professors in labor relations from John Hopkins, Wisconsin, and Harvard Universities.

This is the first large-scale conference which the Institute of Industrial Relations has planned. The Institute is rather a new organization. It was created in 1945 at the University of California by the California legislature to promote a better understanding between employer and employee groups. The work of the Institute is directed toward the public interest and the national welfare through an objective appraisal of the problems of industrial relations.

The planned conference will put the Institute's objectives to work dynamically.

### Arbitration First Now Order of Day on Docks

A clause which has been in many contracts signed with unions in the marine industry since 1940, but which has only been used once previously, is today receiving attention in an orderly fashion.

That clause provides for wage review during the life of a contract, and that such a wage review shall go before an arbitrator. Both parties, under the agreement, are bound by the decision of the arbitrator.

With one of the most costly of all marine strikes behind it, both CIO and AFL unions are invoking the wage review clause, peaceably. With emphasis today on the rising cost of living and the more or less uncertainty of the times, the unions are taking advantage of the clause more often.

Professor Clark Kerr, impartial chairman of the West Coast conciliation service, completed arbitration of the International Longshoremen's & Warehousemen's Union (CIO) demands for a 14-cent hourly wage increase on December 27, when he handed down an award of five cents.

Senator Wayne Morse of Oregon arbitrated the wage review clause in January, 1942, the first time it was ever invoked.

At present, Paul L. Kleinsorge, chairman of the Tenth Regional Wage Stabilization Board, just recently named associate professor of economics at Stanford University, Palo Alto, is arbitrating the 25 per cent



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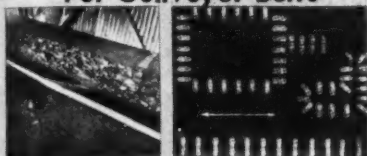
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## Present Day Practice in Belt Fastening

Every man who has anything to do with the purchase, application or maintenance of conveyor, transmission or V-belts will find the bulletins listed below of considerable value in connection with belt fastening work. A knowledge of present day practice in belt fastening helps reduce the loss in machine hours due to belt failures caused by the use of the wrong type of fastener or improper application. We shall be glad to send any or all of them to you or to any of the men in your organization.

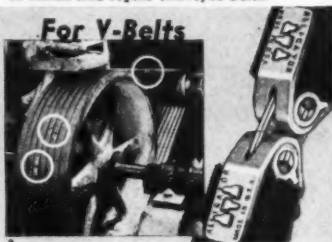
### For Conveyor Belts



**FLEXCO HD Belt Fasteners** are used to make a "water-tight" butt joint in conveyor belts ranging from  $\frac{1}{4}$ " to  $1\frac{1}{2}$ " thick and of any width. The view on the right shows the various types of rips and patches that can be made with these fasteners and Flexco HD Rip Plates.

**Bulletin F-100** gives complete details on how to fasten and repair conveyor belts.

### For V-Belts



**ALLIGATOR V-Belt Fasteners** are now being widely used to fasten B, C and D, open-end V-belt of cross woven fabric core construction now being made by most belting manufacturers. The view at the left shows a typical application of these fasteners to a drive where endless V-belts would require dismantling the machinery to put the belts on the sheaves.

**Bulletin V-205** gives complete instructions on how to use V-belt fasteners.

**FLEX V** Fasteners for A and B belts are also available for lighter duty V-belt drives. Ask for Bulletin V-14.

### For Transmission Belts



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**Bulletin A-60** tells how to fasten and repair transmission belts.

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wage increase asked by the CIO Marine Cooks & Stewards Union. He will also arbitrate the 25 per cent wage increase asked by the CIO American Communications Association.

An arbitrator has not yet been named for the request of the independent Marine Firemen, Oilers, Watertenders & Wipers Union who are also eligible for a wage review.

Neither of the two licensed officers' unions—AFL Masters, Mates and Pilots Association and the CIO Marine Engineers Beneficial Association—have wage review clauses in their present contracts which expire on September 30, 1947, and June 15, 1947, respectively.

While there is nothing in the contracts signed with the unions which prohibits strikes, the clause for periodic wage review once it is invoked seems to forestall them. Under the clause, either party to the contract, whether it be employer or union, can request that wages be reviewed. Each party is then bound by the arbitrator's decision.

## One-fourth of California's Unionists are Women

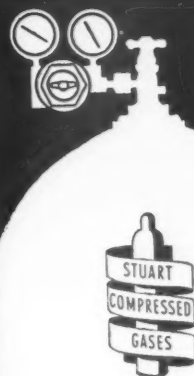
Nearly one-fourth of California's 1,000,000 unionists are women, a recent survey by the Division of Labor Statistics of the California Department of Industrial Relations reveals. In addition, the survey reveals the unions are stronger in Northern California than in the southern part of the State.

Women also make up a larger percentage of membership in Northern California than they do in Southern California. The survey reveals that for every 100 members in Northern California, 25 were women, while only 20 out of 100 members belonged to a union in Southern California.

The highest ratio of women members was found in the textile and apparel group where women formed 67 per cent of the total membership. In the food and tobacco industry, 51 per cent of the members were women. Of the union members in hotel, eating and drinking establishments, 46 per cent were women, and in the wholesale and retail trade, 39 per cent.

For union members as a whole, the largest number were employed in manufacturing, with the second largest industrial grouping in the construction industry, and third and fourth largest in the food and tobacco manufacturing and long-haul transportation industry, respectively.

With respect to union membership in Northern and Southern California, the survey revealed that 345 locals in the San Francisco area contained 265,036 members, while 421 locals in the Los Angeles metropolitan area contained 252,396. Numerical strength of union members is concentrated in the relatively fewer large unions, the survey revealed.



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## Some Western Problems In Portal Pay Suits

Portal pay suits by now are "old stuff." The millions of dollars sought, by CIO unions for the most part, from companies located in nearly every sizeable hamlet in the 11 Western States, as well as the whole United States, has been headline news.

In the light of those demands, it might be pertinent to analyze a few of them to see if Western firms are being sued on principles different from similar suits filed in the East.

Generally speaking, the answer will be in the negative. But, there are a certain number of cases in which the grounds for the suits seem to be more reasonable from an occupational standpoint. These are suits in which health hazards are present and which are typical of many Western industries.

In four suits filed in the Bay Area by the Mine, Mill & Smelter Workers, CIO, the employees handle injurious materials. For instance, at Atlas Powder Company the men who work on the powder lines pack the powder into boxes. As a result, the powder often sifts into their clothes.

Since it is highly inflammable material it is necessary for them to change their work clothes in one room, take a shower in another, and put on street clothes in still a third room. Unwashed and in powder-laden clothes, they are not only dan-

gerous to themselves but also a fire hazard to the innocent bystander.

In their portal pay suit, some 75-80 employees of Atlas Powder Co. are asking \$200,000 for the time necessary to change into street clothes.

At California Cap Company, 32 employees are seeking \$80,000 in back wages which they claim for clean-up time performed after their regular scheduled eight hours of work. The company manufactures percussion caps which necessitates the using of acid. From this acid, burns and skin diseases result if the girls do not thoroughly wash up after leaving their jobs.

Thirty employees at Sonoma Quick Silver Company are asking \$25,000 in wages for clean-up time at the plant. Since working with quick silver is a hazardous occupation, the employees base their claim on the fact that the time spent in cleaning up to eliminate health hazards should be paid for by the company.

The fourth suit is against the C. K. Williamson Company, where 15 employees seek \$50,000 in wages for clean-up time. In working with the paint pigments, a fine powder gets into their clothes, which when it gets wet turns into a dye. The employees claim that the dye will mark anything touched, and that they must therefore clean up thoroughly before they leave the plant to protect not only themselves but other persons with whom they come in contact.

## Seattle Labor School Expands

The Seattle Labor School has been expanded into the Pacific Northwest Labor School and will service unions throughout Washington and nearby states. It is now in its new building at 309 Second Avenue North, Seattle.

Expansion was undertaken largely at the request of the Washington State Industrial Union Council CIO, the Building Service Employees' Union AFL, and the Pension Union. The school will aid union locals in organizing classes and obtaining films and other educational materials. Bert MacLeech is educational director of the school.

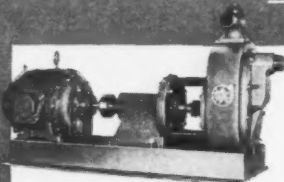
## Oregon Studies Annual Wage

Member firms of Columbia Empire Industries, Inc., in Oregon are studying annual wage plans distributed by the association.

The plans are included in a report of a special committee of the Illinois Manufacturers' Association entitled "Guaranteed Annual Wages." The report was prepared during 1946 and is the first of a series of reports to be issued on the subject.

Although Columbia Empire Industries, as an association, is not specifically recommending the adoption of guaranteed annual wage plans to its members, it seems significant that the association has undertaken the job of acquainting its members

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with the general idea. It has been reported that at least two or three firms in the Portland area are seriously considering adoption of some type of annual wage plan.

### What a Jurisdictional Strike Can Do

The Mello Franco, renamed the S.S. Bayeaux, involved in a union dispute which tied up the port of Coos Bay, Ore., for nearly six months, has finally sailed for Callao, Peru.

And during what looked as if it were a permanent stay for the ship, the captain married a local girl, and other crew members, by choice or design, were there so long they started making speeches at the Lions Club.

### Hazardous Industries

The most hazardous industries in California in 1945 in terms of ratio of fatalities to employment were (1) lumber and timber industry, (2) extraction of petroleum and other mineral resources, and (3) trucking and warehousing. In each of these, more than one life was lost for every 1,000 wage and salary workers employed and covered by the California Workmen's Compensation Act, according to Paul Scharrenberg, director of industrial relations for the state of California. In the lumber industry nearly two lives were lost for every 1,000 workers employed.

### California Trade Outlets Reach All-Time High

California reached an all time high of 241,801 trade outlets on October 1, 1946, 35,000 more than the prewar peak in 1941 and an increase of more than 10,000 above the total on July 1, 1946.

But in spite of a net gain of 42,000 trade outlets since V-J Day, the number of outlets for each 1,000 persons has not kept up with the increase in population in the state. The ratio for each 1,000 population is now approximately 26, three less than the prewar ratio of 29, the State Reconstruction & Reemployment Commission reports.

Service stations and automotive supply stores continue to hold first position in the number of establishments in the state. On October 1, 1946, they had 37,205 outlets. Establishments serving meals and drinks were next with 32,008 and grocery stores third with 17,788.

### Just in Time

The first day that E. E. (Red) Matthews, of the electric shop force of American Smelting & Refining's Garfield, Utah, plant, wore the safety shoes he had just won in a safety contest, a shaft fell on his foot. If it had not been for the safety toe construction of the shoe he would have been severely injured; thanks to the steel toe cap he escaped without a scratch.

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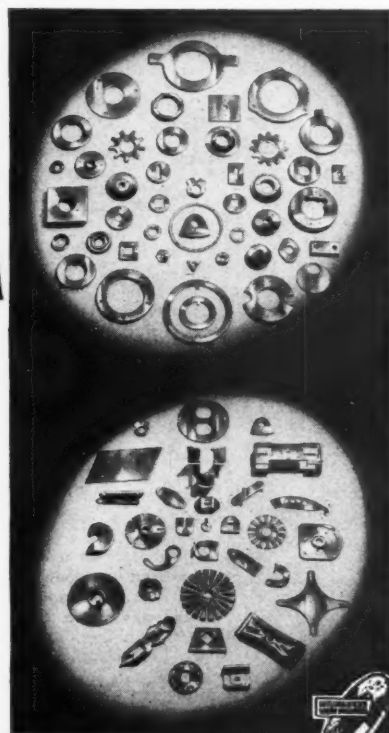
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## THE WEST ON ITS WAY

### ARIZONA

**GREAT WESTERN EXPLORATION TAKES OVER MINE**—The old Tom Reed gold mine near Oatman has been taken over by Great Western Exploration Co. Property is equipped with a modern mining plant and 300-ton mill. Also included in the deal is another gold property in southeastern Arizona, the Allison mine, which is equipped with a 150-ton mill. Great Western operates the Arizona Magma silver-lead property near Chloride. Nye A. Wimer is president.

**ANACONDA WANTS VAN DYKE MINE AT MIAMI**—Anaconda Copper Mining Co. is negotiating for purchase of the property of the Van Dyke Copper Company at Miami. Sale is set at \$5,000,000. D. M. Kelly of Butte, Mont., is v.p. in charge of Western operations for Anaconda.

**AMONG CPA APPROVALS . . .** are 49 booster stations, AT&T Co. (Lordsburg-Phoenix-Blythe), to cost \$97,800.

**MORE GALLONS AVAILABLE**—Central Arizona Petroleum Corp., which will distribute Phillips petroleum products in Maricopa county, has completed a bulk distributing plant with a capacity of 90,000 gallons in the Six Points industrial district. S. L. Nicholson is president.

**EXPANSIONS PLANNED**—The Arizona Power Authority plans a \$30,000,000 construction program to provide facilities for transmitting Colorado river power to nearly all parts of Arizona. . . . Mountain States Tel. & Tel. Co. will add 36,300 telephones, 45 new toll circuits, and increase its plant investment in Arizona by \$4,707,200. New exchanges at Ashfork, Gila Bend, Payson and Sulphur Springs Valley are included in the program. . . .

**MORE TRAILERS TO BE BUILT**—Canaday-Wiley Manufacturing Co., Inc., will soon establish a plant in Phoenix and commence manufacture of heavy freight trailers and semi-trailers.

**OPERATORS MOVE INTO NOGALES COPPER STRIKE**—Heavy equipment has been moved by Pomona Mining Co., to a promising copper-silver strike in the Gardner Canyon area of the Santa Rita Mountains, 30 miles east of Nogales, Ariz. Pomona Mining Co. has taken over the Redberry and Hidden Tunnel claims and is improving access roads from Parker cattle ranch to the mine, while stripping outcrops for immediate production. Phelps Dodge smelter at Douglas is reported to have contracted for the company's entire output of ore, and loading ramps are now being provided by the Southern Pacific at Sonita Siding, 12 miles east of Patagonia, and seven miles from the mine. The recent gold discovery in the foothills of Baboquivari Peak, southwest of Tucson, also was recently acquired by Pomona Mining Co.

**FLOTATION PLANT WILL WORK HUGE DUMP**—A new 100-ton flotation mill is in operation at the Gold King mine, 26 miles southeast of Kingman. It will start on a 10,000-ton dump of gold-silver ore, accumulated since the Moss Canyon Mining & Milling Co. took over the property last October.

### CALIFORNIA

**WESTINGHOUSE L.A.'S DEPARTMENT MOVES**—Westinghouse Electric manufacturing and repair department's shops and activities at Los Angeles have moved from 420 S. San Pedro Street, to a building at 3383 E. Gage Ave., Huntington Park. Company now occupies 83,000 square feet on one floor and a balcony—78,000 square feet of shop space on one floor, and 5,000 of office space. The new location, on a Southern Pacific spur, and with easy access to Los Angeles' heavy industries, was chosen to facilitate the servicing of electrical equipment and steam turbines.

**AMONG CPA APPROVALS FOR BAY AREA ARE**—Meyers Safety Switch Co., San Francisco, mfg. electrical switches, \$48,714. . . . American Radiator & Standard Sanitary Corp., Richmond, mfg. plumbers brass fittings, \$950,000. . . . Golden State Co., Ltd., Stockton, milk processing, \$60,400. . . . Rath Packing Co., San Francisco, meat packing plant alterations, \$390,000. . . . H. C. Little Burner Co., San Rafael, manufacture floor furnaces, \$150,000. . . . Rheem Mfg. Co., Richmond, mfg. domestic elec. water heaters, \$60,900. . . . Riverbank Canning



Co., Riverbank, cannery warehouse, \$60,000. . . . Pacific Tel. & Tel., Palo Alto, central office building, \$350,000. . . . Food Machinery Corp., San Jose, mfg. fruit and vegetable growing equip., \$894,574. . . . Hunt Foods, Inc., Hayward, food products warehouse, \$300,000. . . . Pacific Rubber Co., Oakland, storage and shipping facilities, \$165,000. . . . Gerber Products Co., Oakland, warehouse, canned baby food, \$72,000. . . . Moore Equipment Co., Stockton, irrigation and mining machinery, \$48,500. . . . The Valianos Co., San Francisco, processing vegetable oil, \$300,000. . . . Friden Calcul. Mach., San Leandro, building and servicing calculators, \$87,350. . . . Regal Amber Brewing Co., San Francisco, foundation and steel only for bottling plant, \$78,500.

**PREFABRICATED HOMES TO BE PRODUCED**—General Panel Corp. of Los Angeles has been awarded an RFC-guaranteed market contract for the production of 8,500 plywood prefabricated homes by the end of 1947. It will fabricate its houses in the Lockheed surplus plant at Burbank, Calif. Houses marketed by the Celotex Corp. will sell for approximately \$5,875, including an allowance for \$900 for the lot.

**PLOMB EXPANDS**—Plomb Tool Co. has exercised its option to purchase the J. P. Danielson Co., Jamestown, N. Y., makers of pliers, pipe wrenches and adjustable wrenches. The acquisition gives Plomb an eastern facility and is its fourth plant, others being located in Chicago, Los Angeles and Portland.

**NEW CHEVROLET PLANT**—General Motors Corp. has started construction of the new Chevrolet assembly plant at Van Nuys, Calif. The plant is scheduled for completion in 1947, depending on availability of materials and equipment.

**NEW SUGAR PLANT STARTED**—Spreckels Sugar Co. has started work on their \$600,000 plant at Salinas. . . .

**MATSON TO BUILD IN HAWAII**—CPA has approved a \$485,000 bulk sugar plant to be built at Hilo, Island of Hawaii, for the Matson Navigation Co. . . .

**NEW INDUSTRIES IN SAN JOSE**—Republic Supply Co. to locate on the west side of North Tenth Street, between Horning Street and Bayshore Highway, will manufacture pumps, oil well equipment and heavy hardware items. . . . Basalt Rock Co. purchased a 30-acre site on the west side of Bayshore Highway near Moffett Field and will construct a \$300,000 plant to manufacture basaltite, a light-weight concrete building block. . . .

**STEEL FIRM TO SETTLE IN SAN JOSE**—Pittsburgh-Des Moines Steel Company, one of the nation's largest steel firms, has purchased a plant site on the northwest corner of Bayshore Highway and the Santa Clara-Alviso Road, and construction will start as soon as materials and priorities are available. Company is a pioneer fabricator of structural steel.

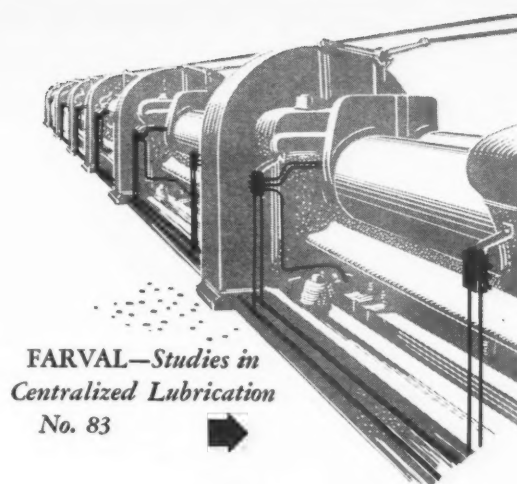
**CVC EXPANSION**—Expansion now completed at California Vegetable Concentrates, Inc., Huntington Park, includes installation of most up-to-date machinery and equipment available. Company has completed purchase of the Couture plant at Modesto.

**CHEMICAL PLANT PLANS EXPANSION**—American Potash & Chemical Corp., Los Angeles, plans a \$4,500,000 plant expansion program designed to increase production by 60,000 tons of soda ash and 30,000 tons of borax, in order to keep pace with rapidly expanding Western industry.

**RAINIER BREWING TO START NEW ADDITION**—Construction on a \$200,000 addition to the Rainier Brewing Company's bottling works at 15th and Bryant streets, San Francisco, will start in the near future. This is the first unit in a \$3,000,000 expansion program planned for the company's San Francisco and Los Angeles plants.

**C. & H. PURCHASES ISLAND REFINERY**—California and Hawaiian Sugar Refining Corp., which operates the largest sugar refinery in the world at Crockett, will extend its refining operations to the Hawaiian Islands by taking over the plant of the Honolulu Plantation Company on Oahu, purchased for \$1,250,000.

**CPA SOUTHERN CALIFORNIA APPROVALS**—C. F. Braun & Co., Alhambra, office building to house staff of technical engineers for oil refinery equipment factory, \$200,000; Standard Oil Co. of Calif., boiler shop, El Segundo Refinery, El Segundo, \$235,850; Pacific Electric Railway, improvements to provide space and facilities for removal of electric cars from 6th St., \$242,000; Paul Henry, 2037 S. La Cienega Blvd., Los Angeles, thermostat factory and office building for production of critical products, 11851 W. Olympic Blvd., \$55,000; International Furniture Co., Chicago, an amendment to the original application for a furniture factory at Yorba Linda, \$255,000.



**FARVAL—Studies in  
Centralized Lubrication  
No. 83**

## Savings of \$1910 a month from \$7500 invested in Farval

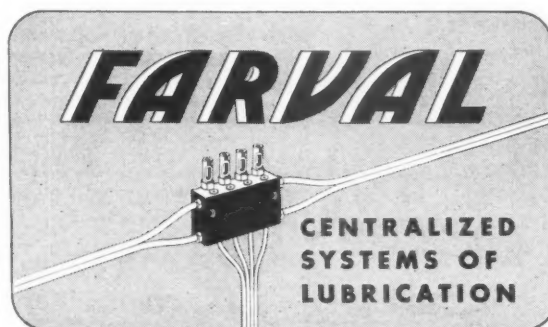
FOR 12 years, one of the large rubber companies has been enjoying the satisfaction and economy of Farval centralized lubrication on its 46 rubber mills. Formerly, bearings were lubricated with heavy cylinder oil through sight-feed cups. This work, done by hand, took eight oilers and cost \$1400 a month. Farval now does the job for \$400 a month. The eight oilers were cut to two, who also keep the Farval systems filled and operating around the clock.

The money savings in labor and lubricant average \$1910 a month. Yet gratifying as these dollar savings are, this user says the elimination of the former mill delays due to hot bearings has given the company an even larger return in increased mill output—far more valuable than all other economies combined. All this from an original investment in Farval centralized lubricating systems of less than \$7500!

Farval delivers oil or grease under pressure to a group of bearings from one central station, in exact quantities, as often as desired. Farval—the Dualine System with the Positive Piston Displacement Valve—that has but 2 Moving Parts—is Fully Adjustable—and with a Tell-tale indicator at each bearing to show the job is done.

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## THE WEST ON ITS WAY

**MORE SOUTHERN CALIFORNIA APPROVALS** — Metropolitan Water District of Southern California, buildings for the necessary operating equipment in connection with an increase in the filtered and Zeolite softening treatment of water for the district, \$600,000. . . . Certified Grocers of California, Ltd., an essential food warehouse on Shelia St., between Industrial and Fitzgerald Ave., \$685,478. . . . Minnesota Mining & Manufacturing Co., St. Paul, Minn., an adhesive cement plant at Garfield Ave. and Randolph St., \$130,000. This is the first unit of a Pacific Coast plant for Western production of many essential products. . . . Petroleum Equipment Co., 2800 S. Alameda St., Vernon, oil well supply factory expansion and consolidation on Bandini Blvd., \$577,500. . . . Motorite Co., Inc., 2847 E. 11th St., Los Angeles, expansion of fractional horsepower electric motor factory near intersection of Telegraph Road and Garfield Ave., \$75,000. . . . The Quaker Oats Co., Los Angeles, expansion of existing facilities to double critically needed poultry feed production, \$135,000. . . . Lady's Choice Foods, 4578 Worth St., facilities to increase food processing, \$60,000. . . . Zellerbach Paper Co., Los Angeles, a paper distribution warehouse on the southeast corner of Union Pacific Ave., and proposed extension of Hicks St., \$969,100.

**ANOTHER NEW INDUSTRY** — A new industry for Santa Clara County will be a branch plant of the Pacific Electric Manufacturing Corporation of San Francisco, manufacturers of oil circuit breakers for high voltage transmissions. The corporation has leased a plant at 1835-39 South First Street, San Jose, and will have 35,000 square feet of factory space.

**NEWCOMER PLANS CONSTRUCTION**—Patterson Products Corp., newcomer to California canning, has purchased property at Patterson and is planning \$250,000 tomato products operation with construction to start shortly.

**WAA SALES INCLUDE**—Lincoln Auxiliary Army Airfield No. 2, Mather Army Airfield, Lincoln, to the City of Lincoln. . . . A surplus war plant in Pittsburg, Calif., to the California Scrap Iron Corp., wartime operator, for \$41,100 cash . . . and a portion of the Alcoa plant, 190th St. and Normandie Ave., Torrance, to Western Aircraft Components Sales Center, to be used as a central storage point for aircraft components agents in the Western states.

**MORE BABY FOOD**—Libby, McNeill & Libby has started construction of new unit at Sunnyvale plant to handle baby food production which represents second portion of expansion program, half of which is now completed.

**PACIFIC SHIP PURCHASES**—Pacific Far East bought five C2-type freighters at a total cost of over \$5,000,000, under the Ship Sales Act. Pacific Transport purchased three C3-type vessels for \$1,300,000 each. The company expects delivery on its ships in January.

**FIBREBOARD PLANT EXTENSION OK'D** — CPA gave final approval of the \$408,450 plant extension program of Fibreboard Products, Inc., at Stockton.

**CANDY AND MATCHES COMBINE**—Universal Match Corp. has purchased Reliable Nut Co. of Los Angeles in a cash transaction exceeding \$500,000. Universal will continue to produce a line of assorted nuts and candy bars now manufactured under the Reliable label, and one unit of the plant will be segregated and converted to production of book matches.

**ROTARY-WING AIRCRAFT TO BE BUILT**—United Helicopters, Inc., plans a 100,000 square-foot assembly and fabrication plant on a newly acquired 65-acre site in San Mateo County. Commercial production of rotary-wing aircraft, which have been built and test flown recently, is expected to start soon.

**WOODWORKING MACHINERY PLANT TO OPEN**—First San Francisco plant to manufacture power-operated woodworking machinery will be the Keating Co. of San Francisco, mfrs. of metal products.

**NEW BAY AREA DEVELOPMENTS**—A. La Rocca & Sons, San Francisco, have been granted CPA permit for a new quick freeze plant for sea foods, approximate cost \$130,000. . . . Rath Packing Company, San Francisco, \$390,000, modernizing and expanding meat products packing plant. . . . Giant Mill & Lumber Company, San Pablo, new lumber mill and molding plant, \$200,000. . . . The Liqua-Zone Company, San Jose, completing plans for \$250,000 additional soap factory building on company's five-acre site. . . . Cameron & Company, Napa, Napa County, plans erection of an additional factory building to cost approximately \$400,000. The company manufactures men's apparel.

**WHAT'S NEW IN SAN DIEGO**—Barker Manufacturing Company, 3896 - 50th St., is now engaged in the production of plumbing accessories, such as boiler repair plugs, water meter keys, and replacement clean-out plugs. . . . **Bulls-Eye Manufacturing Corporation**, 7533 Fay Ave., Warren Beckwith and Frank Fahey, Jr., partners, is producing indoor target pistols and target kits. . . . **Kenneth A. Camp**, 1435 "C" St., is producing buffing wheels. . . . **Ellery and Hagans**, 3903 Lapwai St., engaged in the manufacture of windows and doors for contractors in the G.I. home building field. . . . **Faiman Sleeve Tool Company**, 3117 Marlborough Avenue, manufacturing a patented portable hydraulic sleeve tool used in motor rebuilding. . . . **Howell & Lamb**, 2636 Montclair, C. N. Howell and E. B. Lamb, partners, engaged in making semi-precious stone jewelry and sterling silver mountings. . . . **Keller Brothers**, 4345½ 46th Street, is producing silver rings and bracelets using California semi-precious stones. . . . **Medical Electric Manufacturing Company**, James B. Eschwege and Charles Ammen, partners, 3039 Kettner Blvd., producing infra-ray lamps for therapeutic purposes. . . . **Metalwood Manufacturing Company**, 3449 California Avenue, producing wooden base electric lamps and wooden household items. . . . **Mission Lamp and Shade Company**, 1915 Winder Ave., Charles E. Cortright, owner, manufacture of wood, ceramic, and lucite lamps and parchment shades. . . . **Peerless Manufacturing Company**, 3280 Main St., contracting for Rohr, producing aircraft parts. . . . **Sky Line Industries**, 4981 University Ave., Richard Platt and Frank Janos, partners, manufacturing plastic based lamps and plastic novelties. . . .

**THORP AIRCRAFT**—The firm name of John W. Thorp and Company has been changed to Thorp Aircraft Company. Factory is now at 8000 Woodley Avenue, Van Nuys, in larger quarters; has completed strength tests on its new two-place personal plane, the "Sky Scooter."

**NEW GRINDING MILL**—Kennedy Minerals Co., Inc., completed a new grinding mill at 2550 E. Olympic Blvd., Los Angeles, thereby increasing capacity to 1,500 tons a month.

**NEW LOCATION FOR DRUG CO.**—Brunswig Drug Co. is settling in a new location at Vernon. Investment in building and equipment will be approximately \$2,000,000.

**RECENT MERGER** — Calplasti-Corp. has merged into the Weber Showcase & Fixture Co. of Los Angeles and will continue all activities in conjunction with the Porta Freeze line of products. . . .

**FACTORY UNDER CONSTRUCTION**—The Rough Rider Mfg. Co., makers of dress pants and slacks, is constructing a \$350,000 one-story building in South San Francisco. . . .

**WESTERN HEADQUARTERS FOR RUBBER CO.** — Naugatuck Chemical Div. of the U. S. Rubber Co. has established Western headquarters in Los Angeles for processing and distributing farm and rubber chemicals, aromatics, plastics and other products. . . .

**NEW INDUSTRIES IN SOUTHERN CALIFORNIA INCLUDE**—**Spiral Kool Pipe Co.**, 1831 Stanford St., Santa Monica, has moved the major part of its plant from Seattle and is machining parts and assembling smoking pipes. . . . **M. & L. Tool & Die Mfg. Co.**, 422 Magnolia Ave., Glendale, has opened a general machine shop making dies, tools, stampings, etc. . . . **Anrele Mfg. Co.**, 619 S. Glendale Ave., Glendale, has begun manufacture of aluminum trailers, hand trucks, etc. . . . **Blue Star House Trailer Co.**, 1822 W. Garvey Blvd., El Monte, has begun production of house trailers. . . . **Kent Specialties, Inc.**, 7324 Bellaire Ave., North Hollywood, will manufacture food items such as pure and artificial maple flavoring, tomato bouillon, seasonings, pure onion, garlic and celery juice, as well as pet shop medical products. . . . **Berman & Tobin**, 1848 E. 16th St., has begun processing of burlap bags. . . . **Western Concrete Products Co.**, 730 Georgia Pl., Azusa, is making concrete building blocks. . . . **American Radiator & Standard Sanitary Corp.**, Pittsburgh, Pa., has acquired over 47 acres in Torrance, on which buildings containing 500,000 sq. ft. of floor area will be constructed for manufacture of vitreous china plumbing fixtures. H. W. Creeger will be plant manager. . . . **Magnavox Co., Inc.**, Ft. Wayne, Ind., through purchase of the Klasse plant, 2335 E. 27th St., will assemble Magnavox radios as well as manufacture high quality radio cabinets. . . . **Miracold of California**, offices at 1450 S. Central Ave., plant at 1302 Newton St., will process frozen foods, particularly bakery goods. . . . **Swedlow Plastics Co.**, 5527-5523 District Blvd., has been formed to make resin-impregnated and laminated fabrics and papers, as well as acrylic formed products for aircraft and other industrial use. . . . **Sun Harbor Packing Co.**, headquarters in San Diego, will construct a 45,000 sq. ft. building at 1020 Way St., Terminal Island, to pack sardines, mackerel, and tuna, and to process fish meal and oils. . . . **Artists Alliance Corp.**, 8820 Washington Blvd., Culver City, has been formed to make motion pictures, with a program of about \$7,500,000. . . . **Birchtree Bros. & Dorr, Inc.**, Glendora, has plans for production of canned fresh frozen orange juice, under the trade-name of "Glen-Dora." Ed Dorr is president and general manager. . . . **Jack & Jill Ice Cream Co.**, now having its prod-



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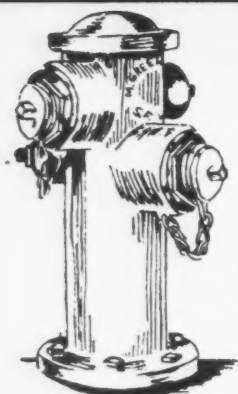
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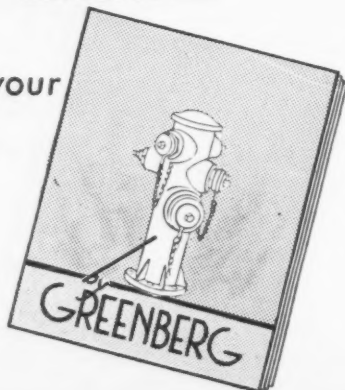
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## THE WEST ON ITS WAY

ucts made by a firm in Glendale, will build its own manufacturing plant at 2665 Riverside Dr., Los Angeles. Building will contain 50,000 sq. ft. Fred and Charles Bresler are the owners. . . . **James O. Welch Co.**, Cambridge, Mass., is planning to establish a branch plant at 3008 E. 11th St., for manufacture of candy bars. . . . **Glenwood Mfg. Co.**, 2606 N. San Fernando Rd., Burbank, is making formed plywood products and plans to make, also, store fixtures and plywood luggage. . . . **Hermione, Inc.**, 321 W. Los Feliz Blvd., Glendale, has been established to make porcelain items such as hand mirrors, lotion and perfume bottles, candy and powder boxes.

**AMONG SOUTHERN CALIFORNIA EXPANSIONS**—**Union Oil Co. of California**, 617 W. 7th St., has begun its \$15,000,000 expansion program at its Wilmington refinery. . . . **General Petroleum Corp.**, 108 W. 2nd St., has purchased property on the east side of Flower St. and will erect an office building at an estimated cost of \$5,000,000. . . . **Harrower Laboratory, Inc.**, 920 E. Broadway, Glendale, a subsidiary of the Lambert Co. of New York, has purchased a 23-acre site for a new building. . . . **National Lead Co.** has acquired five acres at 3107 E. 26th St., and will construct buildings on three acres at present. . . . **U. S. Rubber Co.**, 19253 S. Vermont Ave., Gardena, plans to erect a new rubber production unit. The new chemical process to be utilized will make it possible to blend carbon black directly with liquid rubber. . . . **Arthur Bone, Inc.**, 4436 Worth St., will construct a 30,000 sq. ft. building at the above address for dyeing and finishing of yarn and fabric. Cost of building and new equipment is estimated at \$215,000. . . . **Western States Lacquer Corp.**, 4400 E. Washington Blvd., plans to erect a building of 28,000 sq. ft. Company makes lacquer, synthetic enamel, and industrial paint. . . . **Rehrig Pacific Co.**, 3726 E. 26th St., has moved to this location where 19,000 sq. ft. of floor space are being utilized for manufacture of milk bottle crates for the dairy and creamery industry. . . . **Eugene S. Schneider, Inc.**, has acquired 78,000 sq. ft. of land at 1755 Blake Ave., and is constructing a 15,000-sq. ft. building. Company makes occasional tables of lucite and wood, desks, and later will make dining room furniture of the same materials. . . . **Summers Gyroscope Co.** will construct a 15,000 sq. ft. building at 2200 Broadway, Santa Monica. Company makes automatic pilots for the aircraft industry. . . . **Joslyn Co. of California**, 5100 District Blvd., will construct a 12,000 sq. ft. steel storage building. Company makes pole-line hardware. . . . **Probert Mfg. Co.**, 2239 Ores St., will construct a 12,000 sq. ft. building on Gleneden St., off Riverside Drive, for increased production of metal covered doors and trim. . . . **Conditionaire, Ltd.**, 1015 W. 2nd St., is erecting a building of 12,000 sq. ft. at 4002 N. Mission Rd. Company makes air-conditioning registers and grilles. . . . **H. W. Koll Mill & Lumber Co.**, 600 W. 182nd St., Gardena, has acquired 14 acres and the first unit of 5,000 sq. ft. of a new planing mill has been erected. . . . **George Schmidt, Mfrs.**, 716 E. 14th St., have moved to the above address where 4,500 sq. ft. are utilized for manufacture of jewelry items, specializing in silver jewelry, Western buckles, etc. . . . **Ranier Water Softener Co.**, 2910 San Marino St., has purchased a lot 100 feet by 260 feet, and will construct a building of 4,800 sq. ft. . . . **Main Sash & Door Co.**, 8766 Mettler St., has moved to its new building where 6,000 sq. ft. of floor space are available. . . . **Northington, Inc.**, 510 W. Garfield Ave., Glendale, has moved to this address where 5,000 sq. ft. are utilized for manufacture of infants' silver and silver-plated articles, and also certain hollow-ware items. . . . **Kunkel Metal Products Co.**, 1632 S. Los Angeles St., has taken over the second floor of present location which affords 5,000 additional square feet for manufacture of vacuum cleaner parts and assembly of popcorn vending machines. . . . **Moreno Bros.**, 1054 San Julian St., is constructing a 5,500 sq. ft. building at 522 E. 12th St. Company makes olive oil. . . . **AAA Cabinet Co.**, 6740 Crenshaw Blvd., has increased its space by moving to this address where 4,600 sq. ft. of floor are utilized for manufacture of kitchen cabinets, wardrobes, etc. . . . **Ever-Art Ceramics**, 1632 Murchison St., has increased its space by moving to the above address, where about 4,000 sq. ft. are available for manufacturing of giftware. . . . **Industrial Blowpipe & Sheet Metal Co.**, 7609 S. Central Ave., is erecting a 4,000 sq. ft. building at 6218 S. Central. Company makes blowers, machine guards and other sheet metal items. . . . **California Bell Co.**, 5605 W. Adams Blvd., will build the first unit of a new plant at 708 S. Marengo Ave., Alhambra. Company makes church, ranch, garden and souvenir bells. At new location, Mission door knockers and sundials will be made. . . .

## COLORADO

**IDEAL EXPANSION TO TOTAL \$8,500,000**—**Ideal Cement Company** has increased its expansion program to \$8,500,000. It will be spread over three years on company plants at Trident, Mont., Ada and Okay, Okla., and Houston, Texas.

**RICH CRIPPLE CREEK ORE IS SHIPPED**—Colorado gold mining swung back into the spotlight recently when it became known that a carload of ore from the Ajax mine at Cripple Creek, averaging nine ounces to the ton, was shipped at the Golden Cycle mill at Colorado Springs.

## IDAHO

**POWER EXPANSION**—Utah Power & Light Co. has begun work on a \$600,000 construction program designed to provide the Upper Snake River and Big and Little Lost River valley areas with adequate and dependable sources of electric power. . . .

**SEARS PLANS BUILDING AT TWIN FALLS**—Sears-Roebuck & Co. has purchased a city block in Twin Falls, for \$150,000, and will spend more than \$500,000 to modernize the structure for service in that area.

## MONTANA

**FLOUR MILL MERGER PLAN JUNKED**—Negotiations on plans to merge the properties and businesses of the Montana Flour Mills Co., Great Falls, with that of the Continental Flour Mills Co. of Seattle have been terminated without success.

## NEVADA

**ATKINSON TO MAINTAIN WAA MAGNESIUM PLANTS**—The job protecting and maintaining the vast properties near Gabbs, Henderson, Las Vegas, Nevada, developed for wartime production of magnesium and manganese, was assigned by WAA to the Guy F. Atkinson Company of South San Francisco.

## NEW MEXICO

**NEW GAS PLANT READY**—Southern Union Production Company is going into operation in its recently completed \$500,000 gas dehydrating plant in the Barker Dome field in northwestern New Mexico.

**BELEN MAY GET \$600,000 PLANT**—A tract of land has been purchased and offered by the Belen Chamber of Commerce to the Associated Manufacturing Co., which plans to build a \$600,000 foundry there. The land is located near the southeast corner of the town.

## OREGON

**NEW NORTHWEST HEADQUARTERS**—California Spray Chemical Corp. has purchased a two-story brick warehouse in Portland from California Bag & Metal Co. for approximately \$70,000. Company plans to install equipment which would triple the local output of agricultural dusts for orchard and vegetable crops. Building will also be firm's Northwest headquarters out of which it will serve other branches in the area. Milled in new plant will be rotenone, DDT, arsenical, copper and various other dusts.

**AMONG PORTLAND AREA EXPANSIONS**—News-Times Newspaper, Forest Grove, one-story concrete newspaper plant for \$72,000. . . . Pacific Telephone & Telegraph Co., Portland, new exchanges at N. E. Clackamas and 102nd, N. Lombard and Mobile. Estimated cost of projects \$700,000. . . . Lloyd A. Fry Roofing Company, 3750 N.W. Yeon, one-story felt mill at estimated cost including equipment of \$286,730. . . . Montgomery Ward & Co., N.W. Yeon near 35th, purchase of 14-acre tract for 650,000 sq. ft. warehouse bldgs. . . . Pacific Body Builders, N.E. 6th and Schuyler, one-story factory at \$66,000. . . . Portland Canning Co., Sherwood, new warehouses at Sherwood and Forest Grove with total cost of bldgs. \$67,500. . . . Western Waxed Paper Co., North Portland, one-story concrete addition, estimated cost \$81,000.

**HOUSING LOGS CONTRACT LET**—Log Structures, Inc., 120 Fourth Ave., Forest Grove, Ore., has signed a contract for \$2,500,000 with the Lowe Co. of Los Angeles and San Francisco to furnish patented housing logs to build 7500 houses in the southwest and Mexico over a five-year period. A \$100,000 expansion is planned in order to fill the new contract.

**BUILDING PERMIT GRANTED**—Willard Storage Battery Co. has been granted a \$305,000 building permit for construction of a plant in Portland. Approximately \$175,000 worth of equip. will be installed.

**NEW INDUSTRIES IN THE PORTLAND AREA INCLUDE**—Blair Woodworking Co., 8930 N.E. Killingsworth, making sashes, doors and cabinets. . . . Jan Bole Cosmetics, 724 N.E. 68th Ave., making

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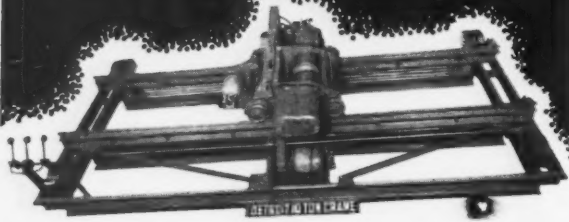


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## THE WEST ON ITS WAY

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**PLANT TO BE CONSTRUCTED**—The Reter Fruit Co., 327 S. Fir St., Medford, plans construction of an estimated \$74,000 cold storage plant adjacent to the firm's location.

**FIRM TO BUILD**—The chemical division of Monroe & Krisell, 135 N.W. Park Ave., Portland, will construct a new plant on property purchased on N.W. Front Ave. Company plans to change its name to the Western Chemicals Co.

**MOBILIFT TRUCK OUTPUT TO BE INCREASED**—Portland manufacturers of the Mobilift, the Vaughan Motor Co., 835 S.E. Main St., Portland, will increase production of the fork-lift truck as soon as a \$115,000 one-story reinforced concrete structure on a six-acre tract at S.E. 25th Ave. and Raymond St., is completed.

**SAWMILL AND STOCK PURCHASED**—Valsetz Lumber Co. has purchased the sawmill at Valsetz, Ore., and other properties of the Cobbs & Mitchell Co. and the W. W. Mitchell Co. Also purchased was the capital stock of Valley & Siletz Railroad Co., which operates 41 miles of common carrier road from Valsetz to Independence.

**NEW PHONE PLANT DUE FOR ROSEBURG**—Plans are being made for construction of a two-story, steel-frame, fireproof building in Roseburg by the Pacific States Telephone & Telegraph company. The building, 75x101 feet, designed principally to accommodate equipment for a projected dial telephone system, together with general headquarters appointments, and site represent an outlay of \$550,000.

**NEW FIRM STARTED**—Construction of a concrete block manufacturing plant at Seaside is planned by P. H. Felix and Harry Swarm, both of Portland. The property under lease is located near the S. P. & S. Railroad company right-of-way and is 180x100 in size.

**WAA APPROVAL**—Sale of a Jefferson, Ore., flax fiber plant to Santiam Flax Growers, Jefferson, war-time operator, for \$10,120 cash has been approved by WAA. Plant was built by Government at a cost of nearly \$125,000.

**PLANT LEASED**—Hyster Co. has leased for five years a war plant in Portland, containing 36,000 square feet of floor space and equipped with a traveling crane and 11 hoists, with option to buy from WAA. The firm, which operated the plant during the war, will use it for assembly of lumber carriers, winches, tractor equipment and other machinery manufacture.

**WAA AGREEMENT**—The port of Portland will get back Swan Island, including facilities for which the Maritime Commission spent \$14,000,000 in changing the former airport to shipyards. WAA has agreed to take over the Maritime Commission's lease.

**AMONG CPA APPROVALS**—Wing Orchards, Inc., Medford, will construct a one-story cold storage building for \$132,000. . . Blue Lake Producers Co-operative, West Salem, plans construction of two buildings, one a machine shop and the other a canned goods warehouse, a \$116,208 program. . . Fibreboard Products, Inc., will build a factory in Portland costing \$563,521. . . Stage Coach will construct a \$175,000 cold storage plant at Medford. . . Hudson-Duncan Co., Portland, will begin construction of two cannery-packing plants in Oregon,



## UTAH

**INTERNATIONAL SMELTING & REFINING GIVE UP PARK NELSON**—Park Nelson Mining Company (headed by W. H. Nelson of Park City) and Park Konold Mines Co., of which Daniel Konold of Ogden is pres., plan resumption of activities. International Smelting & Refining has given up its claims on the two properties.

**LEBANON SHIRT PICKS HYRUM**—Lebanon Shirt Company will complete a \$150,000 factory at Hyrum shortly. It will contain 40,000 sq. ft. of floor space and provide employment for approximately 200.

**NEW FURNITURE MANUFACTURING PLANT**—The N. L. Shepherd Chair Co. has been incorporated for the purpose of manufacturing, selling and distributing office furniture. Officers are N. T. Shepherd, pres., and Harry Shepherd, vice-president, both of Salt Lake City.

**AMONG UTAH EXPANSIONS**—Oregon Pulp & Paper Co. has purchased a 40-acre tract of land in Provo as site of a \$100,000 paper mill. . . . AlSCO Corp. of Utah is now in full operation at its new plant in Salt Lake City making all-aluminum frame storm windows and summer screens. Richard A. Martin is president; Milton Lafayette Lee, vice-president and general manager; Lawrence J. Brennan, treasurer; Floyd W. McGinn, production manager, and Henry A. Arnold, sales manager. . . . Utah Copper Co. is adding \$3,000,000 worth of equipment to its electric generating plant at Arthur. . . . Under construction now is the \$325,000 plant of William H. Prince & Sons—Cinder Block, Inc., of Salt Lake City—bulk of sales are expected to be made throughout the 11 Western states. . . .

**PUMICE SHIPPED AGAIN**—Shipments of pumice stone from the Utah Pumice Co. mine southeast of Sevier Lake in south central Utah have been resumed after 57 years of idleness. Byron A. Ray is president.

**NEW VOLT LINE**—Telluride Power Co., serving south central Utah, is building a new 44,000 volt line five miles long in Beaver Canyon in Beaver County.

## WASHINGTON

**WILLAPOINT OYSTERS, INC.**—Control of Willapoint has been purchased by a group of Seattle and South Bend men, which means that a majority of the Pacific brand of oysters grown in the Northwest largely from Japanese seed, will now be marketed under the Willapoint brand name. Purchasers were Arnold Waring of the Haines Oyster Co., Seattle; Vern Hayes, South Bend and Seattle, and R. H. Bailey of Seattle. Bailey has been elected president and Seattle office manager of Willapoint. Hayes is vice president and general manager and Waring director of the corporation. Arthur Lille, former manager, becomes California sales manager.

**YAKIMA DAIRY PLANNED**—A \$100,000 remodeling and expansion project for the Cascade Milk Products Co., Yakima, is planned.

**WILL BUILD EVERETT PLANT**—American Lumber & Treating Co. plan construction of a seven-acre plant at Everett, Wash., that will be capable of chemically treating over a million board feet of lumber a month. Operations are to include treatment of lumber with Wolman salts preservative, creosote and mineral flame-proofing salts to make the wood resistant to insects, rot and fire.



**LINK-BELT COMPLETES NEW PLANT**—Link-Belt Co. Pacific Division, Seattle, manufacturers of conveying and power transmission machinery, have completed and are now occupying their new plant at the corner of Sixth Ave. South and Hinds St. It contains a machine shop, larger warehouse facilities, and an up-to-date office building.

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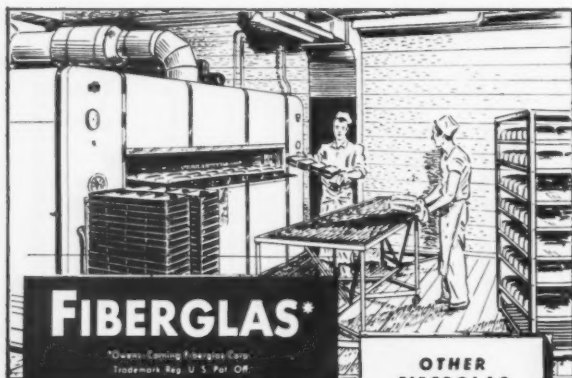
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## THE WEST ON ITS WAY

**POWER EQUIPMENT CO. SOLD**—John Deere & Co., Moline, Ill., has purchased the Lindeman Power Equipment Co., Yakima, Wash., makers of a crawler attachment for a small orchard-type tractor manufactured in Moline.

**PROJECT PLANS BEING PREPARED**—Plans for the first \$1,000,000 unit of the \$2,000,000 Seattle plant for I. F. Laucks, Inc., division of Monsanto Chemical Co., have been completed, following construction approval by CPA. The initial unit of the three-year program will include two masonry structures for the manufacture of soy bean flour and wood preservatives. The plant will be located on a 29-acre tract between the Duwamish River and Pacific highway.

**PERMANENTE METALS CORP.**—Rehabilitation of the \$1,000,000 Kaiser aluminum reduction plant at Tacoma, Wash., has been started by Permanente Metals Corp. The plant was acquired from the WAA for \$3,000,000. Rehabilitation consists chiefly of relining the pots and repair of existing machinery. Work is to be completed by March.

**FRUIT PROCESSING PLANT CONTRACT AWARDED**—Contracts for construction of a \$133,180 fruit processing plant at Grandview for the Tea Garden Products Co., 3433 Airport Way, Grandview, have been awarded.

**PLANT PROJECTED**—The Webster Lumber Co. of St. Paul, a manufacturing firm, will operate in Spokane where it will construct a new plant on property comprising about six acres which lies south of Wellesley, between Ferrall and Freya.

**EXPANSION PROGRAM APPROVED**—Inland Empire Refineries, Inc., Spokane, plans an expansion program for its Hillyard refineries estimated to cost more than \$800,000. Plans are to add production of petroleum coke to present output of plant, utilizing asphalt base heavy crude from its developed wells in Cutbank and Soap Creek, Mont., oil fields.

**CARNEY ROCKWOOL WILL CONSTRUCT LONGVIEW PLANT**—The new Carney Pacific Rockwool Co., an affiliate of the Carney Co., Inc., of Mankato, Minn., pioneer manufacturers of masonry cement, rockwool and other building materials, will construct a new plant at Longview. The plant will manufacture some 25,000,000 square feet of Carney batts for new home construction and special wool for pneumatic blowing into the walls of old houses. Harry E. Carney, Jr., Mankato, Minn., is president.

**TO CONVERT WASTE FLOUR MILL PRODUCTS**—Pacific Associated Products Co., a new Seattle concern, will erect a \$100,000 plant for conversion of waste flour mill products into dextrose sugar, gluten and glucose. The plant will convert waste from Fisher Flouring Mills. Plans are under way for piping the waste material from the flour mill to the new conversion plant.

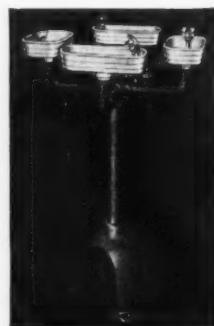
**NEW USE FOR FORMER NAVY SHIPS**—Todd Pacific Shipyards and Puget Sound & Dredging Co. were successful bidders on contracts totaling \$3,790,741 for conversion of three former Navy hospital ships into transports for carrying troops and dependents between the Pacific Coast and the Orient.

**NEW TACOMA INDUSTRIES**—Marine Iron Works is manufacturing the Mighty Man garden tractor which can be used either as a two-wheel tractor or converted to a four-wheel riding tractor in 10 minutes.

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HAWS Drinking Fountains assure drinking water sanitation. The HAWS shielded head projects the stream of water at a most convenient drinking angle, and lips and fingers cannot touch the orifice. Install HAWS Sanitary Drinking Fountains, Faucets and Electric Water Coolers now and obtain complete drinking water satisfaction.



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Concern employs 55 persons. . . . Camp Manufacturing & Sales Co. has started production of chromium plated aluminum household fixtures in its new plant on 11th and Hylebos. It employs 50 men. . . . Modern Fixture & Woodworking Co. is in operation in its new Center Street plant which manufactures food store, bar, restaurant and other commercial fixtures. Company plans to add commercial and home refrigeration manufacture shortly. . . . Count's Cocktail Co. has begun production of various combinations of seafood, egg and deviled meat cocktails which are distributed in Oregon, Washington, Idaho, Wyoming and California.

**TO BUILD FOOD PLANT**—Final drawings for a \$60,000 food processing plant to be constructed at 700-708 Fifth Ave. S., Seattle, for Yankee-Spredwell Foods, 1502 Fourth Ave. S., have been completed.

**HOWE SOUND TO PUT EMPHASIS ON MINING**—Mineral-processing operations of the Howe Sound Company's mill at Holden will be closed for at least six months to permit concentrated effort on mining.

**TACOMA BERTH FOR FISH CRAFT PLANNED**—The Tacoma Chamber of Commerce has plans for a \$175,000 project to provide berthing facilities for large fishing craft at the Port of Tacoma.

**WAREHOUSES PLANNED**—Several large reinforced concrete warehouses are to be built by the Spokane Metals Co., Spokane. The structures will be built on a 12-acre site formerly occupied as the yard of the McGoldrick Lumber Co.

**EXPANSION PLANS FOR ADHESIVE FIRM**—The Adhesive Products Co. of Seattle, purchased by the American Marietta Co. of Chicago, has completed intensive research on new synthetic resin products which will necessitate a \$500,000 plant expansion program.

**CARTON PLANT LEASED**—California Container Corp., a subsidiary of Container Corp. of America, has leased the mill and carton plant of Standard Carton Co. in Tacoma, Wash.

**CPA APPROVAL**—A concrete grain elevator to be constructed at Connell for the Connell Grain Growers, Inc., to cost an estimated \$309,453, has been approved by the CPA.

**NEW KNITTING DIVISION**—Jantzen Knitting Mills has purchased a \$62,500 9½-acre tract and buildings of FPHA at Vancouver, Wash., and will establish a winter sports and dressmaker swim suit division there.

## WYOMING

**REA LINES TO BE EXPANDED**—The rural electrification administration has approved loans in recent months to rural electric cooperatives to build power lines to serve 4,000 farms and homes in Wyoming.

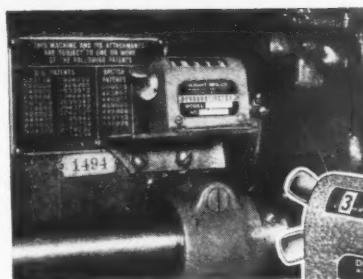
**AIRPORT TRANSFER COMPLETE**—Final transfer of the multi-million dollar Government modification center at the airport to the city of Cheyenne has been completed. Acquisition of the facility by the city gives Cheyenne one of the leading airport facilities in the nation.

**TO BUILD VERMICULITE PROCESSING PLANT**—U. S. Vermiculite Co., Salt Lake City, is erecting a processing plant for the conversion of vermiculite ores for commercial use at Encampment. Ore from the area has been shipped to processing plants elsewhere in the past.

**HUSKY PULLS OUT OF RIVERTON**—The Husky Refining Co., Cody, will move its refinery at Riverton to Lloydminster, Saskatchewan, Canada. Since the war the plant has stood idle. Activity at Vermillion, Alberta, and Lloydminster warrants the refinery removal.

**OPERATION OF AIRLINE APPROVED**—Summit Airways has commenced scheduled operations across Wyoming and to Billings, Denver and Salt Lake City. The corporation is headquartered in Laramie and formerly operated as a flying school and charter service. It was granted permission to transport mail, passengers and property in intrastate commerce over three routes in the state.

**UTILITY BUYS PLANT**—The Black Hills Power and Light Company has been authorized by the Wyoming public service commission to purchase the Newcastle properties of the Mountain States Power Company. R. E. Furios of Deadwood, S. D., will be stationed here as company representative, and S. A. Zumbrunnen, manager of the plant for the Mountain States company, will be transferred elsewhere when the sale has been completed.



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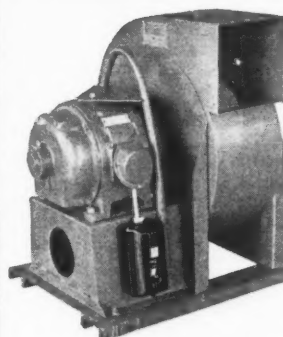
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Paul S. Wells appointed mgr. of time recording div. of IBM, San Francisco.

Permanente Products Co. appoints Floyd R. Carpenter manager of development division with offices in Oakland.



General Petroleum Corp., Seattle, appoints Ragnar Giske, formerly chief marine lubrication engr. of corp. in the Pacific Northwest, as mgr. of marine sales succeeding late Carl J. Waage. Arthur L. Stavik appointed district sales mgr.

National Air Cargo Coordinators, Inc., air freight forwarders, have opened offices at Los Angeles Airport. B. J. Hecht is manager. . . .

New wire rope distribution and storage facilities have been installed in Bethlehem Pacific's new mill depot at Third and Mariposa streets in San Francisco, which make it possible for wire rope orders to be received, the rope measured, cut and shipped all in the same day. Reels of wire rope, in a wide range of sizes, grades and types, are stored on steel channels to facilitate handling and to more evenly distribute the heavy loads on the floor of the building. Special measuring and coiling equipment has been installed to assure speed and accuracy in filling coil-length or small reel orders. . . .

American Saw Mill Machinery Co. of Hackensack, N. J., opened a branch office, February 1, at 7 Front St., San Francisco, which will carry a stock of saw mills and woodworking machinery together with parts in order to furnish service to West Coast customers and dealers. William L. Fibben has been appointed district manager. . . .

Farnham Manufacturing Co. has merged with Paragon Research, Inc., for an expanded development program in machinery manufacture. The Paragon office at 9900 Lincoln Blvd., Los Angeles, becomes the branch office of Farnham. H. A. Powis is in charge of this office. . . .

Carl J. Anderson, formerly a manufacturers' agent, has been appointed district sales manager in Seattle for the Deepfreeze division of Motor Products Corp. . . .



R. J. Perin

Ira G. Perin, who represents the Elwell Parker lift truck line in California, has taken his son, Raymond J. Perin, formerly with Good-year Tire & Rubber Co., into partnership with him. The Perins have added a line of motorized hand lift trucks manufactured by Lift Trucks, Inc. of Cincinnati, Ohio. . . .

The Alexander Film Co., Colorado Springs, Colo., has a new service building where the films are classified, assembled, mailed and received and which embodies every possible idea for efficient operation, fire protection and safety. J. Don Alexander is president and his brother, D. M. Alexander, vice-president. . . .

Blackmer Pump Co., Grand Rapids, Mich., maker of power and hand-operated rotary pumps and strainers, has placed the California territory under the direction of Thomas L. Garland, with offices at 98 Folsom St., San Francisco.

L. L. Rhoades, former personnel director, has been made representative in charge of the Los Angeles office located at 415 S. Central Ave. . . .

Bay Cities Equipment, Inc., of Oakland has been named distributor for the marine and industrial engines of Detroit Diesel Engine Division of General Motors Corp. The territory includes Northern California counties from the Oregon line to San Luis Obispo County. . . .



F. X. Kinzie

Joseph T. Ryerson & Son, Inc., Chicago, steel distributors, have appointed Freeman X. Kinzie West Coast representative of the bearings and babbitt division. Kinzie, who has represented Ryerson in the Chicago and St. Louis areas for a number of years, succeeds O. K. Graef, resigned.

James R. Hodges, formerly in the Honolulu office, has joined the San Francisco sales division of the Hawaiian Pineapple Co., Ltd.

The Petroleum Equipment Co., a wholly owned subsidiary of Bethlehem Pacific Coast Steel Corp., is now known as the Bethlehem Supply Co. of California. H. H. Fuller is president of both companies, G. W. Schweinhart, vice-president and general manager, and Wendell M. Jones is vice-president. . . .

Robert G. McCabe, formerly assistant Pacific Coast sales manager for California & Hawaiian Sugar Refining Corp., Inc., has resigned to operate his own food-brokerage business in the Dexter Horton Building, Seattle, under the name of R. G. McCabe Co. . . .

## Keeps Count On Production



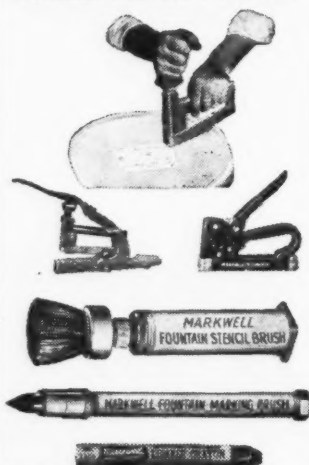
Industry's favorite "Watchdog of Production" since 1906 . . . Redington Counters are widely used on punch presses, pumps, screw machines, packaging machines . . . conveyor lines, can making and box making machinery . . . in fact all types of machinery . . . and production lines. Easy to install . . . 100% accurate. Write for new catalog.

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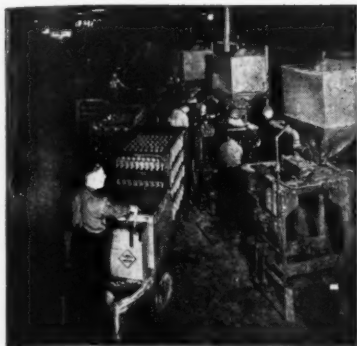
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STAPLE COMPANY**

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Markwell since 1921"

Los Angeles Oakland San Francisco

# THE SHOWCASE

514



•Light-weight, rear-drive, low-lift power trucks which afford full visibility to other equipment, operators, materials and aisles are proving their adaptability in many industries. The Elwell-Parker Electric Co., Cleveland, O.

515

**Sto-Aways**—The revolutionary new design in industrial eye-protection equipment is an all-plastic, folding, safety spectacle. A new type of hollow, stainless-steel temple telescopes to 1/3 normal length and the entire goggle folds to the size of a pack of cigarettes. Lenses are of shatterproof Impax plastic, especially resistant to high-velocity impact, and because of its light weight, this rugged spectacle stays on the eyes. Watchmoke Optical Co., Inc., Providence 3, Rhode Island.

516

**Steelweld Shears Improved** — Control of Steelweld Shears has been made extremely easy and convenient by a new type electric foot control which has been adopted as a standard feature on all size machines. A safety type switch, connected to an outlet at front of the machine by a heavy cable, controls the movement of the blade, and can be slid around the floor to wherever most convenient to use. Unlike the usual mechanical foot treadle, the foot switch requires only a slight movement of the toe. The Cleveland Crane & Engineering Co., Wickliffe, Ohio.

517

**Steel Armour Flooring**—With the same steel qualities of resistance to shock and wear as the flexible grid that was unrolled by the Navy to form overnight, steel-surface air fields in the Pacific during the war, Klemp heavy duty Hex-steel flooring protects the floors of industrial plants of all sizes from the severe wear of heavy traffic, dumping of loads, weight of machines, storage, etc. The Klemp Co., Chicago 38, Ill.

518

**Improved Towing Tractor**—Among the improvements on the Clark towing tractor are a wider steering axle, standard automotive type transmission with three speeds forward and one reverse, water pump in the cooling system, mechanical governor for closer control of speeds and better carburetion, and a flattened nose to provide surface for pushing loads. Clark Tractor, Battle Creek, Mich.

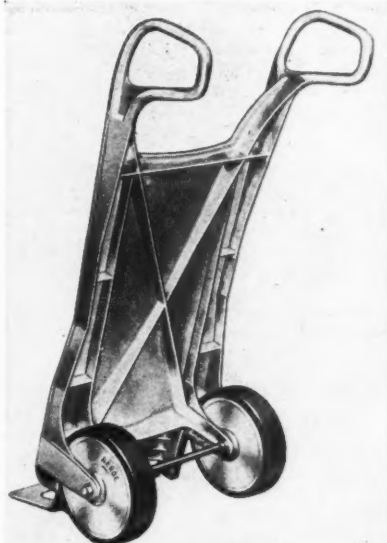
519

**Large Order for Diesel Locomotives**—Eastern United States and Mexican railroads have ordered a fleet of 32 powerful Diesel-electric locomotives using roller bearings from SKF Industries, Inc. The locomotives, described as the most powerful single-unit Diesel-electrics yet to be built, develop 3,000 horsepower and are designed and built by Baldwin Locomotive Works. SKF Industries, Inc., New York, N. Y.

520

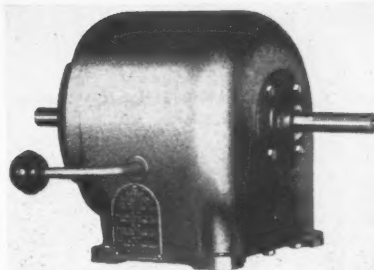
**The "Scout"**—The new caster, of ideal size and design, incorporates unusual liveliness in action and is recommended for use on all types of light trucks, dollies and many types of portable equipment. The special feature, a deep drawn upper raceway swivel bearing cup design, which covers and protects the ball race, assures longer swiveling life for the Scout. The Rapids-Standard Co., Inc., Grand Rapids 2, Mich.

521



•The Universal, a new all-aluminum hand truck, handles all types of loads from golf balls to a bale of cotton. The big aluminum rubber-tired wheels give an easy rolling load capacity of 2,400 lbs. Truck weighs 100 lbs. Aerol Company, Los Angeles 21, California.

522



•The new Lima type RD separate motor driven gear-shift drive is designed to motorize machinery requiring selective speeds, and used with any standard motor of 1/4 hp to 1 hp rating. Lima Electric Motor Co., Lima, O.

523

**New Pumps**—The new "Pedrifugal" pumps, developed for users who require a sturdy, reliable pump of moderate capacity, are cast iron bronze-fitted, pedestal-type centrifugal pumps in three principal sizes. Capacities are from 10 to 500 gallons per minute at heads from 10 to 100 feet, with power requirements from one-quarter to 15 horsepower. The Allis-Chalmers Mfg. Co., Milwaukee, Wis.

524

**New Milling Machine** — The Reed-Prentice 12V universal head milling and die sinking machine is an entirely new concept in vertical milling machines for toolroom work, especially in the making of plastic and rubber molds, die casting dies, forge dies, jigs and fixtures. Greater speed and accuracy, wider range and versatility, minimum set-up and maintenance time are some of the benefits offered. Reed-Prentice Corp., Worcester 4, Mass.

525

**A New Tetrode**—The new Eimac tube is type 4X500A, a power tetrode rated at 500-watts of plate dissipation. Performance at maximum ratings is applicable up to 110 mc. The compact design and unique lead arrangement enable the tube to be used in cavity circuits or in conventional pin type sockets. It is an external anode requiring forced air cooling. Eitel-McCullough, Inc., San Bruno, Calif.

526

**New Conveyor Feed Attachment**—The new spring-loaded bag or pouch Conveyor-Feed Attachment can be easily installed on Fast-Tite Rotary Sealers now in use. A stream of any heat-sealing bags or pouches can be fed into the Conveyor-Feed Attachment. Special alloysprings

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take hold of the bags and convey them through built-in Preheater unit and sealing rollers. *Pack-Rite Machines, Milwaukee 1, Wis.*

527

**Ideal "Hot Blade" Wire Stripper**—Through use of two electrically heated stripping blades, the new "hot blade" wire stripper unit will strip cotton, silk, synthetic (plastic) insulation or rubber covering from fine strand or solid conductors. There is no possibility of cutting strands, nicking, scraping or injuring wire in any way, for the blunt blades cannot harm the finest wire. *Ideal Industries, Inc., Sycamore, Ill.*

528

**Removable Extensions**—Removable table top extensions are the latest optional extra for the Lyon-Raymond Hydraulic elevating table, designed to more particularly adapt the table to strip and sheet feeding operations. In cases where long strip or sheet stock must be fed to presses, the addition of the extensions provides firm support for a length of 72 inches. *Lyon-Raymond Corp., Greene, N. Y.*

529



• The "Phil-Dump" trailer truck has been improved and is now completely equipped with pneumatic tires and a center caster for greater maneuverability and ease in handling, in all types of industrial plants. *Phillips Mine & Mill Supply Company, Pittsburgh, Pennsylvania.*

530

**Streamlined Steel-Strapping Tool** — The Acme No. 3 Steelstrapper is a faster, lighter weight, streamlined combination steel-strapping tool which can be operated on a flat surface of just 5 inches. The tool has two levers, one for tensioning, another seals and cuts the strap from the coil of Steelstrapping. The unusual speed of the tool is accounted for by the short distance these levers cover. *Acme Steel Company, Chicago 8, Illinois.*

531



• The new Oxalid Streamliner reproduces drawn, typed, printed, photographic material with efficiency, speed and economy. It requires only 11 square feet of floor space and is versatile. *Oxalid, Johnson City, New York.*

532

**New All-Steel Skid Platform**—This new steel platform is manufactured in any required size and for any specified lift truck. Steel deck panels made of medium gauge high-tensile strength steel form the load carrying surface, providing a smooth, even surface which is desirable for handling sheets of material such as paper, rubber and leather. *Market Forge Co., Everett, Massachusetts.*

533

**Newest AC Welder**—The new "Fleet-Arc" AC welder, equipped with the "arc booster," surpasses former models in ease of welding, depth of penetration, range of output, economy of operation, and safety. Manufactured in 200, 300 and 500 amperage range, it has both frame and housing of all-welded construction to assure maximum strength and durability. *Lincoln Electric Co., Cleveland, Ohio.*

534

**New G-E Products**—A new line of oiltight push-button units, selector switches, and indicating lights especially designed for the machine tool and automotive industries, have been developed by the General Electric Company. Protection against entrance of oil is provided throughout the line by a diaphragm seal and a rubber gasket. *General Electric Co., San Francisco, Calif.*

535

**Latest Belt Conveyor**—The Speedlift Jr. is the newest addition to Speedways Conveyors full line of material handling equipment. This

belt conveyor has a 14-in. wide endless 3-ply rufftop rubber covered belt, 1/3 horsepower motor, power driven tail feeder unit, gravity head delivery unit, floor locks, reversing switch and a host of other exclusive features. *Speedways Conveyors, Inc., Buffalo, N. Y.*

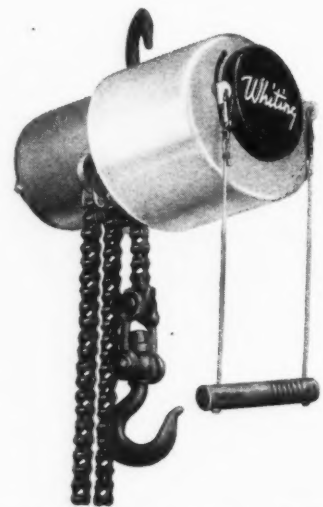
536

**Swing Table Latest Addition**—The new 48-inch Wheelabrator Swing Table is equipped with one 19½ by 2½ inch airless Wheelabrator blast cleaning unit and is ideally suited for cleaning large, bulky, fragile work such as would normally require an airblast room. *American Wheelabrator & Equipment Corp., Mishawaka, Indiana.*

537

**Improved Flat-Drive Pumps**—Blackmer Pump Co. has made several improvements in their flat-belt drive rotary pumps. The newly designed combination bracket and belt shifter is of one-piece, heavier construction and supports the pulley end of the pump shaft in a bronze bushed bearing. The new belt shifter is curved to match the contour of the pulleys and provides faster and easier belt control. A lighter and stronger structural steel base has been adopted with transverse trusses. *Blackmer Pump Co., Grand Rapids, Michigan.*

538



• A new line of roller-chain electric hoists of 1/4, 1/2, and one-ton capacity is ready. The one-ton hoist weighs only 87 lbs. One man can install it or move it without assistance. Utilizes a simple, double-reduction, totally enclosed, worm-gear drive. Precision ball bearings used throughout. *White Corporation, Harvey, Illinois.*

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# YOURS FOR THE ASKING

2108

**Engine Generators**—Available now is an illustrated bulletin describing gasoline, gas or diesel engined Ready-Power engined generators which are used wherever there is need for economical, self-generated, regular or stand-by electric power. *The Ready-Power Co., Power Plant Division, Detroit 14, Michigan.*

2109

**Vertical Pull-Down Broaching Machines**—A new 24-page bulletin which describes and illustrates 21 tool fixture and machine installations for internal and external broaching operations. Standard detent tool holders and automatic tool pullers are made clear and interesting by the many pictures and drawings contained in this colorful booklet. Specifications cover machines from 5 to 37½ tons pulling capacity with 24 to 66-inch stroke. *The Oilgear Co., Milwaukee 4, Wis.*

2110

**Squirrel Cage Induction Motor**—A new bulletin, No. 720, covering type OG (protected type) standard squirrel cage induction motor, describes and illustrates fully the construction, features, and some typical applications of this motor. The bulletin is prepared in an attractive new style, which makes "thumbing through" pleasant and interesting besides instructive. *The Louis Allis Co., Milwaukee 7, Wis.*

2111

**Hidden Hazards on Your Roof?**—A new, illustrated folder entitled "Hidden Hazards on Your Roof" has just been published. This handy maintenance guide discusses worn, leaky roofs and points out the economical way to restore life to cracked or dried out roof surfaces. Because every roof takes a beating Stonhard has made a material for every maintenance requirement, and has prepared this interesting little folder to acquaint you with the way to repair the hidden hazards on your roof. *Stonhard Co., Philadelphia 8, Pa.*

2112

**M.I.M.A. News**—Purpose of the new publication is to establish the News as a helpful medium of contact between the users of 85 per cent Magnesia Insulations and the manufacturers. It seeks to bring information about heat insulations to industrial users through articles describing unusual applications of the product, its contribution to economy and its aid to industrial efficiency by the elimination of unnecessary heat waste. The News will be issued quarterly. *Magnesia Insulation Mfg. Assoc., Chicago 1, Ill.*

2113

**Lubrication of Aircraft Wheel Bearings**—A new bulletin of charts, diagrams, photographs and text to provide maintenance personnel with information on wheel bearing greases and their proper application. *The Texas Co., New York 17, N. Y.*

2114

**Bucket Selection Simplified**—In its new catalog No. 2076, Blaw-Knox presents its two-line buckets with a combination of pictures and factual data which enables a bucket user to coordinate his crane capacities with the data given and select the correct bucket, either for rehandling, hard digging or dredging. Copy sent upon request. *Blaw-Knox Co., Pittsburgh, Pa.*

2115

**New Welding and Cutting Products Catalog**—This new 64-page catalog is divided into two sections: one for oxyacetylene welding and cutting gases, equipment and supplies; the other for arc welding machines, accessories and electrodes. Prices are included. *Air Reduction Sales Co., New York 17, N. Y.*

2116

**How to Advance in Business**—The Alexander Hamilton Institute has just published a 64-page booklet designed to assist ambitious men in speeding up their business progress and increasing their income. *Alexander Hamilton Institute, New York 10, N. Y.*

2117

**Production Bugged Down in Dust?**—A new booklet which plays up the importance of dust control to industry is available. It pictures the tube that drops dust and shows you how easily you can lick the problem. *American Foundry Equipment Co., Mishawaka, Ind.*

2118

**Link-Belt Electrofluid Drive**—This new and revolutionary drive is described in a 16-page illustrated book No. 2085. The drive consists of a general purpose induction motor, flange-mounted to a housing and a hydraulic coupling and is a completely "packaged" unit. *Link-Belt Co., Chicago 1, Illinois.*

2119

**Cutting Tools**—Machine performance depends upon the capacity of the cutting tool used. The best modern machine tools produce only what the cutter is capable of delivering. Selection of the right tools is just as important as the selection of the machine itself. In this pamphlet actual case histories are presented which show results obtained from various types of cutting tools. *Barber-Colman Co., Rockford, Ill.*

2120

**Steel Cleaners**—A four-page color leaflet describing steel cleaners made for electroplaters illustrates a typical cycle for low carbon steel processing and discusses solvent emulsion-type pre-cleaners, solvent-alkali combination for pre-cleaning, alkaline soak tank cleaners, alkaline electro cleaners and specialty acid-type descaling products. *Pennsylvania Salt Mfg. Co., Philadelphia 7, Pa.*

2121

**Duff-Norton Jacks**—A new 40-page catalog giving complete descriptions, data, and specifications for every jack in the Duff-Norton line, has just been issued. Catalog 203 contains much new information as well as descriptions of improvements on standard jacks and new additions to the line. Each of the jacks is illustrated by photographs and descriptive material. Application data are included. Details are presented on the improved automatic lowering mechanism, journal jacks, and a new 50-ton general purpose screw jack of the inverted type. *The Duff-Norton Mfg. Co., Pittsburgh 30, Pa.*

2122

**Master Motors**—New literature being issued on Master products includes six bulletins on various types of equipment: **Master Electric Speedmaster and Cablemaster Hoists**; **Master-drives for Motorizing Machines**; **The Master Big 3 Unit**; **Master Electric Power Blow Hammers**; **Master Portable Grinders and Tools**; and **Master Gas Engine-Driven Generator Plants**. Each of the pamphlets presents photographs, detailed drawings, charts and specifications on the type of equipment mentioned in its title. *The Master Electric Co., Dayton, Ohio.*

2123

**How to Put Color to Work**—In response to the growing demand for exact information about the scientific use of color to solve a wide variety of industrial and commercial problems, a new 24-page full-color booklet, "Color-Engineering by Fuller," has just been published which illustrates the ways in which modern industry and business can put color to work. *W. P. Fuller & Co., San Francisco, Calif.*

2124

**Standardized Cone-Drive Speed Reducers**—Bulletin available describes new line of standard Cone-Drive gear sets; standard Cone-Drive pinion and gear mountings; and standard Cone-Drive speed reducers. Standard Cone-Drive gear sets and pinion and gear mountings have been engineered for heavy duty applications with pinion either over or under the gear, or with gear shaft vertical. Tables of horsepower ratings included in folder. *Michigan Tool Co., Detroit, Mich.*

2125

**"How to Pour Bearings"**—With a series of six cartoon-type pictures, the steps necessary to obtain good, tightly lined bearings are made clear and easy to follow on a wall card suitable for hanging in the shop. *Joseph T. Ryerson & Son, Inc., Los Angeles 54, Calif.*

## NOTABLE NAMES IN WESTERN INDUSTRY

Largest manufacturer of uniforms, work clothing, linen supplies and professional garments in the West today, and now handling a new line of sportswear, Edward Hyman, in his own words, was virtually "born on a pressing table." A lifetime in the garment industry, beginning in New York, his birthplace, and since 1922 in Los Angeles, has given him every qualification for establishing and building the Edward Hyman Company to its present stature.

Edward Hyman founded his own company in 1926 to make washable service apparel and toweling items. Rapid growth soon necessitated additional facilities. Energetic and creative, Edward Hyman branched out, diversified and expanded his production. He began to make men's work clothing and later, uniforms and professional gowns for doctors and nurses. Finally he has launched a line of men's sportswear that is rapidly becoming a byword in Southern California apparel circles.

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An 18' by 125', 26 ton structure can be erected by combining two bridges.

Weight is approximately 38 tons each.

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# Johnston Stainless Welding Rods

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Los Angeles

Arizona Welding Supply Co.  
Phoenix

J. E. Haseltine & Co.  
Portland, Seattle

MacDonald Co.  
Reno

Mahl Steel & Supply Co.  
Los Angeles

Renfro Products Co.  
Los Angeles

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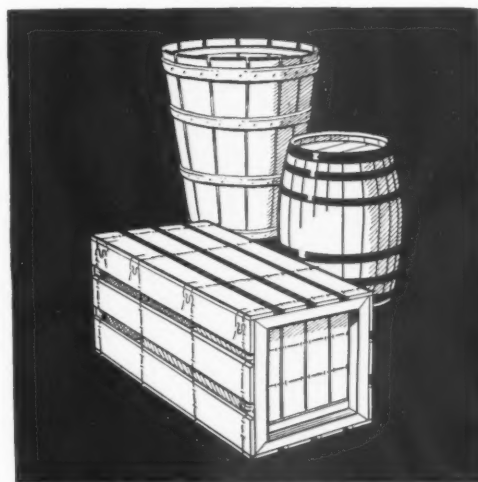
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### DUFF-MARION & CO.

*Distributors of sawn shook and Cabco containers for shipping all fruits and vegetables*

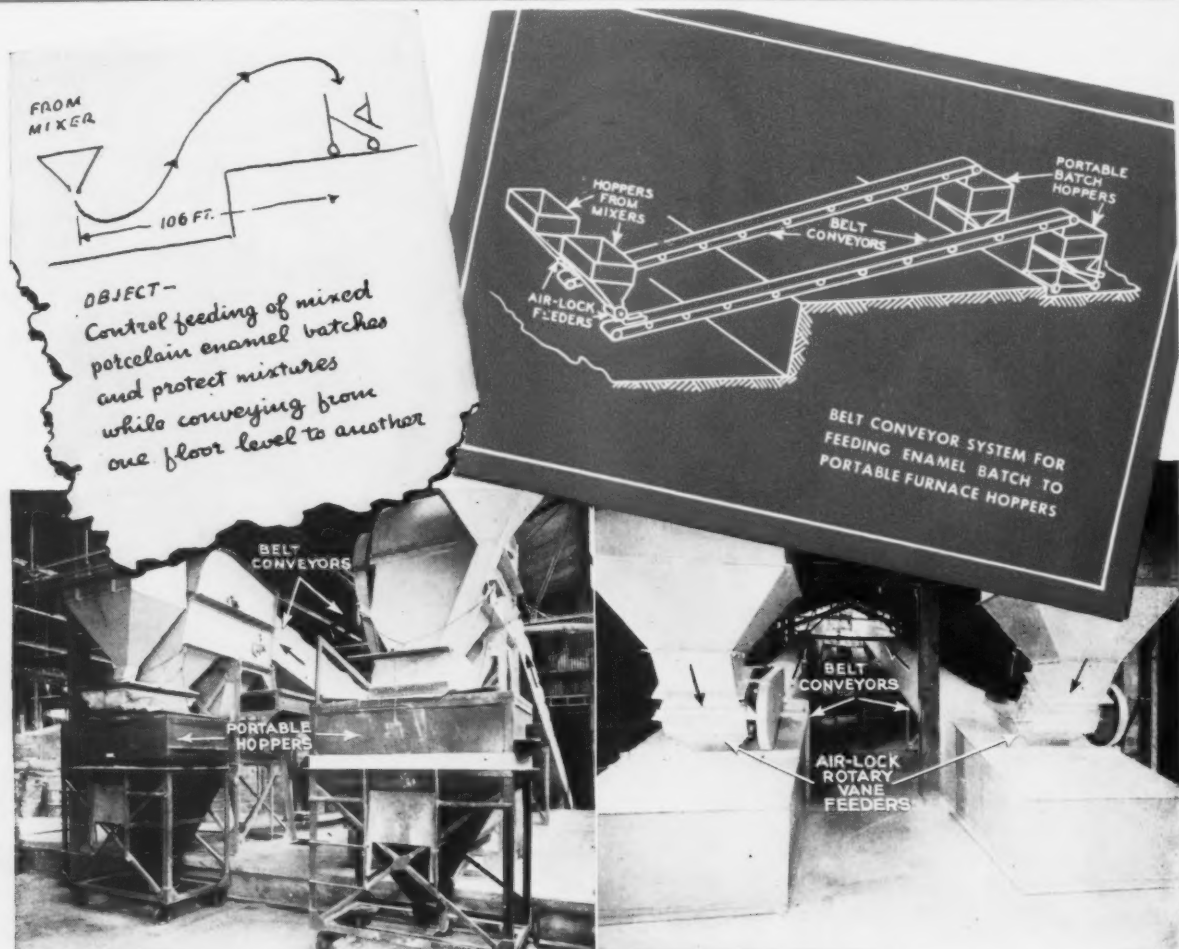
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Batch mixture is discharged into portable hoppers for delivery to melting furnaces. Conveyors and transfer points are enclosed to prevent dust and loss of light materials.

S-A rotary Air-lock feeders measure batch from mixer hoppers to enclosed belt conveyors, without aeration or surges of dry, pulverized material.

## FEED IT RIGHT...KEEP IT RIGHT with S-A Conveyors

In this plant, S-A engineers installed the above system for handling the light, dusty batch mixtures that are so difficult to control...resulting in a minimum of dust, prevention of waste and insurance of a more uniform product.

S-A rotary Air-lock feeders or gates, feed the batch without danger of aeration and sudden surges from the hoppers. The mixture is fed gently and uniformly to the S-A belt conveyors, which are enclosed to pre-

vent contamination or loss in transit. Portable hoppers collect measured batches for transfer to melting furnaces as required.

In addition, the double belt conveyor system permits flexibility of volume and insures against complete shut down in case of accident to any one unit.

This installation is another example of S-A's ability to combine *right* engineering and *right* equipment for efficiency and economy.

151 Mission St., San Francisco, Calif.  
 1007 E. Burnside St., Portland 14, Ore.

**STEPHENS-ADAMSON MFG. CO.**  
 2227 E. 37th ST., LOS ANGELES 11, CALIF.

Washington Machinery & Storage Co.  
 7320 E. Marginal Way, Seattle 8, Wash.

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